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Page 12/14

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HARVARDS

Phlebotomy:

Or,

A Treatise of letting of Bloud,

*Fitly serving, as well for an
aduertisement and remem-
brance to well minded
Chirurgians,*

As also to giue a caueat generally
to all men to beware of the manifold dangers,
which may ensue vpon rash and
vnaduised letting
of Bloud.

*Comprehended in two Bookes: Written
by SIMON HARVARD.*

*Imprinted at London by F. Kingston
for Simon Waterfon.
1601.*

Thomas Hudson: in Quarto 1692
411

HARVARD

Phlebotomy:

Or

A Treatise of letting of Blood

This serving as well for an

adjuvant to the treatment and removal

of all sorts of well mixed

Constitutions

As also to give a general

to all sorts of cases of the manifold diseases

which may arise from the

various kinds of letting

of Blood

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STON HARVARD

Printed at London by T. Kingdon

for Simon Wainman

1703



To the Right Honourable
his singular good Lord, Gilbert Earle of
Shrewsbury, Baron Talbot, Lord Comin of
Badenho, Valence, and Montchency, Lord
Strange of Blanche-minster, of Brimsfeld, Consham,
Furnivall, Verdon, and Louetast, Knight and
companion of the most noble order of the
Garter, and one of her Maiesties
most honorable priuie Counsell:
many ioyful and happy yeeres,
with all increase of
Honour.



It is a propertie (Right Honourable, my singular good Lord) naturally giuen to euery workman and artificer, that be his worke neuer so rude and homely, yet would he be loth that his labour should vanish, and perish:

but seeing that it is the best that his abilitie can performe, he desireth the same as long as may be, to remayne and continue vpon the earth. This cause maketh also many to be so forward in publishing their writings in print, that when they themselves are taken away by death, yet by their works there may still remaine some lasting record, and remembrance of the workemen. But the especiall cause which hath moued me at this time to set

The Epistle Dedicatory.

foorth these my two bookes of Phlebotomy, is, the sincere affection and desire that I haue to bring some supply and helpe (if I can) vnto two very great wants and abuses, which I dayly perceiue to be now too common and grassant in sundrie corners of this realme. For first, although in Cities, as principallie in the famous Citie of London, the people enioy a great blessing of God, in hauing so many worthie and expert Phisitions and Chirurgians so neerely dwelling together, that at all times the one may be able and readie to aduise, and the other also as willing and sufficient to lend a helping hand: yet in Countrie townes, there are many nowadayes which doe practize the opening of vaynes (almost in euery other Village one) and most of them neither haue any learned counsaile to direct them, neither are of themselues sufficiently instructed in the matter which they take in hand: whereby, though many of them do meane well, and intend all for the best, yet in the euent, both to the harme of their patients, and also to their owne grieffe, there often issueth more hurt and danger, then ease and succour. And another as great an occasion there is of many detriments and hinderances to mans health, to wit, the wilfull temeritie and rashnesse of some ignorant people, which for euery small impediment haue recourse presently to letting of blood, and by their vnaduised importunitie do vrge forward the Chirurgian, and euen greedily draw vpon themselues those manifold inconueniences, from which afterward they can not againe so easily be deliuered and made free. For although on the one
side

The Epistle Dedicatory.

side the benefits be most excellent which redound by Phlebotomy being rightly & duly administred, for thereby the fulnesse of the body doth come to a mediocrity, griefes which come by extension are pacified, the spirits are refreshed, & naturall heate euented, the lims being as it were eased of a great burthen, are made more quick & ready to execute euery office, nature is inabled to concoct what is requisite, and to expell the vnprofitable, flowing humours are either drawne back, or turned aside from the place where they annoy, or else are they dispatched and vtterly auoyded, narrow and obstructed passages are opened; and finally, very present help is brought thereby to many dangerous infirmities: Yet on the other side, great also are the harmes which may ensue by letting of blood, if the same be rashly and vnconsiderately attempted, the spirits and blood are spent and wasted, the naturall heate is pluckt away and dispersed, the principall parts are made ouercold, and vtterly lose their strength, old age is hastened on, and made subiect to palsies, apoplexies, drop-sies, and cachexies or bad habits, many (the bridle of choler being taken away) do in a moment fall into most faint laundises, many haue the one halfe of their hearing and sight diminished, and the one arme and the one side vtterly weakened, and many also are brought to an vnrecoverable destruction of their health and life.

To redresse in some part these most perillous incidents, I haue collected out of the most famous Phisitions both auncient and moderne this discourse of Phlebotomy, which although it be

The Epistle Dedicatory.

penned (as commonly Phisick treatises are) in
plaine and familiar words, most fit for them to
whome it is principally directed; yet because it
comprehendeth the handling of one of the great-
est remedies of corporall griefes, as a learned
Phisition commenting vpon Galen ad Glauconem
doth write, *Vena sectio in magnis remedijs ab omni-
bus medicis semper habitus est.* And Messaria, the
chiefe Doctor and professor of Padua, in a treatise
of Phlebotomy, dedicated to Contarenius a worthy
Senatour of Venice, sayth, *Inter medica remedia
nullum sanguinis missione nobilius, nullum prastan-
tius, nullum tutius,* and doth call it further genero-
sum & presentareum vite hominis presidium. And
seeing also that amongst the high cares and char-
ges which chiefe peeres and gouernours do beare
in common wealths, this seemeth not to be the
least, which concerneth so neerely the health, the
strength, and euen the life it selfe of so large a part
of the inferior commons, I haue therefore aduen-
tured most humbly here to present and offer this
my first part of the great Phisick remedies vnto
your Honours patronage, and fauourable pro-
tection, not doubting but that according to your
Lordships accustomed clemencie you will vouch-
safe the same thereof, not so much respecting the
poore gift, as the good heart of the giuer, and ac-
cording to your prone inclination vnto the truth,
and to the generall good of the commons, your
Honor will haue greater regard vnto the graue
authorities of the auctors out of whome these ob-
seruations are collected, then vnto the homely
phrase and plaine method of the obseruer and col-
lector

*Trincavel
in explan.
lib. i. de arte
curatiua ad
Glauconem.
Alex. Messar.
lib. de scopis
mittendi san-
guinem.*

The Epistle Dedicatory.

lector thereof. The eternall God, who hath heaped
vpon your Lordship all those degrees of honour,
vnto which your noble Progenitours haue often
heretofore bin most worthily aduanced, graunt
vnto your Lordship with the like good successe
as they in former times haue done, many prospe-
rous yeares happily to inioy them, to your dayly
increase of honour, and to the good and glory of
our English nation, euer continuing you in the
high fauour of our most gracious Soueraigne, and
blessing you perpetually both in this world with
the loue and hartie affection of the whole

Commons, and also for euer with the

happie societie of the Saints

in the life to come.

From *Taubridge* in *Surrey* this 29. of August.

Anno. 1601.

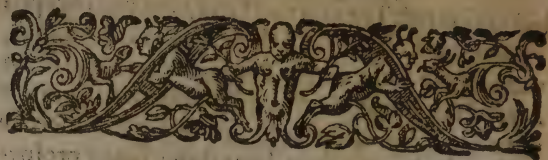
Your Honour most humble in all

duties to be commanded

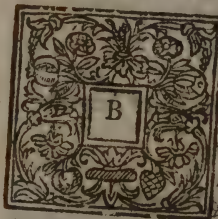
Simon Harward

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The



The Preface, declaring the order and contents of these two bookes of Phlebotomy.



Being purposed and resolved for
the more generall benefit of my
countrymen to publish in two eng-
lish treatises (the first whereof I
do heere intitule Phlebotomy: and
the other, godwilling, hereafter,
as soone as leysure shall serue, Ca-
thartice) as compendiously and as orderly as doth or
shall lye in my power, all the chiefest aphorismes and
conclusions, which haue bin handled and written by
the most famous Physicians of all ages, as concerning
such cautions and circumstances as are to be obser-
ued in letting of bloud, or purging the body of man:
Although in practise it doth in many cases fall out,
that purging ought to take place before the opening
of any vayne (as shall heereafter more at large ap-
peare in this booke) yet for as much as bloud is the
most excellent and principall humour that is disper-
sed in the whole body, according to that of Galen,
τὸν δὲ χυμὸν ὁ μὲν γενεστότατος τοῦ καὶ ὑγιεινέστατος ὡς τὸ αἷμα,
the

Gal. libr. 2.
de tempera-
ventis.

To the Reader.

the best and most familiar iuice in man is bloud.

I haue therefore thought good in my methode of declaring how we must deale with these seuerall humours, to follow the example of diuers learned men of our time, to wit, in respect of the disposing of them, to giue vnto bloud the first place and preheminance.

Fuchs Instit.
libr. 2.
Brighius in
therapeutica.

These two remedyes are not onely accompted the chiefest amongst the kinds of euacuations, but also amongst all other corporall helps prescribed or inuented for the curing of mans infirmities: As well

affirmeth Mercurialis, Duo magnorum auxilio-

Hieron.
Mercurial.
Consil. 42.

rum genera reperiuntur, purgatio nempe & sanguinis missio; There are two kinds of great remedies found out, to wit, purging, and letting of bloud.

These are called great helps, because they are applied vnto great diseases, and also because (howsoeuer they beeing abused do bring the greatest harmes) yet beeing well and rightlie administred, they do bring the greatest and most present eases and remedyes, that euer either inwardlie or outwardlie were deuised for mans health.

Galen
2. Aph. 29.

This my first part of the Remedia magna in Phisick, I haue comprehended in two bookes, the summe and contents whereof, as also of euery part thereof, I haue thought it not amisse first briefly to prefix and lay open to the view of the wellwilling reader.

The first booke shewing what Phlebotomy is, and to what vse it serueth in seuerall diseases, conteyneth tenne Chapters.

The first, what Phlebotomy is, and of the foure distinct kinds and vses thereof.

The second, how letting of blond ought to be

To the Reader.

be used in continuall agues, as also in burning fevers.

The third, how blood-letting may be admitted in some kinds of diary agues made by obstructions.

The fourth, how farre letting of blood may be allowed in intermitting agues, quotidianas, tertians, and quartaines.

The fifth, whether letting of blood be to be admitted in the Plague, and pestilent fevers, as also in the Poxe, meafels, and such other contagious infirmities, and when and how.

The sixth, how letting of blood is to be used in phrenesies, quinsies, pleurisies, inflammations of the raynes or wombe, and other inward inflammations, as they are considered in themselves without agues.

The seauenth, in these dangerous inflammations aforesayd, whether euacuation or reuulsion be more necessary, or whether side the wayne is to be taken for reuulsion; and what is the meaning of Hippocrates his rule, *ut sit, et fluat, et non sit, et non fluat*, to flow rightly, or with a right course.

The eight, whether letting of blood be to be practised in cold diseases, as palsies, cramps, apoplexies, and whether it may fitly be used in melancholick windes, colicks, and dropsies.

The ninth, whether in rheumes and distillations, as also in the gout and in Morbus Gallicus, any benefit may ensue by letting of blood.

The tenth, whether letting of blood be expedient for such as haue hoat liners and cold stomacks, or also for such as haue itches and scabbies, and such other faultis of the skinne. Farther, whether it be fit for the disease called of sea-faring men the skarny, and for the

To the Reader

the cachexia, or bad habit of body: and finally, what and how many are the drifts and scopes in letting of blood.

The second booke concerning the rules and circumstances which are to be obserued, when for the preuening or curing of a disease any waye is to be opened, conteyneth likewise ten Chapters.

The first, whether the party that is to be let blood haue truly that distempered plenitude which is called of Physicians corpus plethoricum, and how the seuerall kinds of plenitude may be knowne.

The second, of the consideration of the temperature of the party, what it is by manner of diet, or by exercise, or by place of aboad, or by custome, or by habit, or by constitution of body.

The third, whether the body haue neede to be prepared before letting of blood.

The fourth, of the age, sexe, and solubilitie of the party, whether old men, or children, or women being either with child, or hauing their termes, may be let blood. Also, whether any hauing bodies either too costine or too soluble, may be let blood.

The fifth, of the state and time of the disease, what consideration is to be had thereof in blood-letting, and which we must regard most of the powers, the animal, the naturall, or the vitall.

The sixth, of the time of the yeare, the time of the constellations of the planets, and the time of the day most fit for letting of blood.

The seauenth, on whether side the wayne is to be taken when we let blood to preuent diseases, or to annoyd or deriue their matter, as also what wayne must chiefly

To the Reader.

chiefely be chosen for sundry infirmities.

The eight, what manner of incision must be made, how large, how small, how deepe, what quantity of bloud may be taken, and therein of the meaning of Galens word to let bloud ad animi deliquium.

The ninth, what order must be taken with them that are let bloud, as well in the act it selfe to prevent swoonings, as also afterward for their government and diet.

The tenth, how defects and errors are to be supplied and mended, and how the Phisition, and in his absence the Chirurgian may know by the bloud being a little while reserved, what course is further to be taken with the patient.

Before I enter into the discourse upon these severall arguments, I must pray the reader first to give me leave briefly to answer certaine doubts and occasions of offences which perhaps might arise upon the publishing of this treatise. First therefore if any (because I having heretofore committed to the presse certaine Sermons, and matters of Divinity, do now begin to set forth a Phisick worke) do therefore gather or suspect that I have converted my studies from the scriptures unto Galen, let him know that in this point I am utterly mistaken by him, for most of my phisick observations were then collected when first I gave my mind that way, which was long before I published any matter of Divinity: so that if there have bin any alteration or conversion of studies, it hath bin from the perusing of Phisick authors to the reading of writers wholly theologicall. And yet still (the conjunction betwixt the body and soule being so neere, and the sympathy so great) I see no cause but that he which studieth Divinity,

To the Reader.

nity, may lawfully now and then so bestow a spare
 houre in viewing of the remedies ordeyned by God for
 mans infirmities, that he may be able in corporall ex-
 tremities to yeeld reliefe as well particularly to him-
 selfe, as in common to his good friends. If any do
 thinke otherwise, if he be a Deuine, I pray him that
 he will graunt me licence to compare small enterpri-
 ses to those which were so farre more noble and ex-
 cellent, and to offer to his consideration that example
 of Moles, which was learned in all the wisdome of Act. 7. 22.
 the Egyptians, that is (as Augustine doth expound Aug. de ciui-
 it) in Astronomy, Geometry, Arithmetick, and such tate dei lib. 8.
 like, which knowledges, though they came sometimes cap. 38.
 from heathen men, yet were they the gifts of God, Basilii
 operatur per malos non in malis. Or to call to his pag. 404.
 remembrance Salomon, whome the holy Ghost doth Eccl. 1. 1.
 entitle with the name of Preacher: and yet God gaue
 him wisdome also to discourse vpon philosophicall mat- 1. Reg. 4. 31.
 ters concerning beasts, birds, fishes, and euery sort of
 simples euen from the greatest to the least, from the Ce-
 dar tree to the mosse that groweth vpon the wall. If he
 be a Phisition, which supposeth that the study of Phi-
 sick can not be tolerated in them whose vocation is
 spirituall, then doo I onely oppose against him the
 auctoritie of the most worthie Phisition and graue
 interpretour of Plato, Marsilius Ficinus, who, be-
 cause some did obiekt agaynst him, Nonne est
 Marsilius sacerdos? Quid sacerdotibus cum me-
 decina? Quid cum astrologia commercij? Ficinus
 maketh an apologie for himselfe, proouing evidently, Marsil. Fici-
 Antiquissimos quondam sacerdotes fuisse medi- nus in apologia
 cos pariter & astronomos. He addeth for proofe, præfixa lib. 1.
 quod sanè Chaldæorum, Persarum, Ægyptiorum de studioforum
 sanitate tuen- testantur da.

To the Reader.

cestantur historiae. Ad nullum præterea magis quam ad pium sacerdotem pertinere singularis charitatis officia. *He concludeth*, officium verè præstantissimum est procul dubio, & maxime necessarium, & imprimis ab hominibus exoptatum, efficere videlicet vt sit mens sana in corpore sano, id autem cum demum præstare possumus si coniungimus sacerdotio medicinam.

Now if there be any that shall thinke it strange that I do so often alleage the testimonies of Fernelius, Fuchsius, Montanus, and others (as relying much upon them) and yet do in some poynts a little dissent from them, I wish them to be certified, that I haue a reuerend opinion of those writers, and am very willing that in those positions which are best determined by them, they should in no wise be frustrated of their due prayse and glory. But if others in some doubts haue found out more then they, then do I challenge liberty as neere as I can to make choyce of the soundest, and in these humane matters to be as the Poet speaketh of himselfe.

Horat. epist.
libr. 1. epist. 1.

Gal. de differentys puls.
lib. 2. & lib. 3.
de sectis prætoris medicorum.

Nullius addictus iurare in verba magistri.
*where Galen doth well, I must needs giue him his due commendations, and euen admire those singular gifts of nature which God bestowed vpon him, but where he skoffeth (as he doth sometimes) at Christi-
anitie, there I detest and abhorre his blasphemies, and leaue him to the iudgement of that God, to whome only it is knowne, whether euer before his death his heart were better lightened with some beames of sparkles of his grace. The words of those excellent Greeke and Latin Phisitions (vpon whose authorities and the reasons, delinered by them these my assertions are*

To the Reader.

are grounded) I haue not set them downe in the proper languages of the first auctors, because my purpose was, as neere as I could, to reduce the whole matter into a brieft and compendious treatise: but I haue both faithfully Verbatim translated them, and also in most places caused the chiefeſt parts of their arguments and conclusions by a ſeueral print to be apparantly diſtinguiſhed, very plainely to be diſcerned. By which diſtinct forme of character, as alſo by the bookes and diſcourſes cited in the margent, it may evidently appeere, that howſoener (to put ſome difference betwixt this my labour and an other english Phlebotomy heretofore published) I haue prefixed my name to the title of the whole worke, yet I do not preſume to cary away the matter as of my ſelfe, but am very deſirous that the louing reader ſhould be ſatisfied with the iudgements of thoſe worthie and famous writers, whoſe counſailes and aduiſes can not (I hope) but be welcome vnto them, which with modeſt and well affected mindes ſhall deſire to imbrace the truth.





The first booke of *Harwards* *Phlebotomy.*

The first Chapter.

*What Phlebotomy is, and of the foure distinct kinds
and vses thereof.*



Phlebotomy is the letting out
of blood by the opening of a
vayne, for the preuenting or
curing of some grieffe or in-
firmities. I take in this place
blood, not as it is simple and
pure of it self, but as it is ming-
led with other humours, to wit, fleame, choler,
melancholy, and the *tenue serum*, which all (as
Fernelius sheweth) as they are contained together *Fernel. method.*
in the vaynes, are by one word vsually called by *medendi lib. 2.*
the name of blood. And although it still fall out *cap. 1. & 3.*
that other humours are also by Phlebotomy eua-
cuated out of the whole body, yet (as *Fuchsius* doth *Fuchf. Insit.*
proue out of *Galen*) it is properly the remedy of *lib. 2.*
those diseases, which of the ranknes of blood haue
taken their originall. There are foure seuerall
sorts and vses of letting of blood. The first is cal-
led *phlebotomia*, euacuatio: The second is called *diapnoe*, and *Montanus in*
of *Montanus* euentatio: The third *antipneue*, reuul- *medicines uni-*
sio: The fourth *paraphlebotomia*, deriuatio. The first, which *uersalis part. 3.*

is called Euacuation, is the auoyding of that repletion and fulnesse whereby the body is ouercharged.

Fernel.method.
medendi lib. 2.
cap. 1.

Montanus
medicine
vniuersalis
part. 3.

Hippocr.
1. Aph. 1.

Gal. libr. 3.
de sanitate
tuenda.

Repletion or fulnesse, called of the Grecians *Plethora*, is an vniuersall redounding of bloud. It is of two sorts, the one is called *quoad vasa*, when the vaynes and vessels conteyning bloud, haue their whole capacity fully and thoroughly filled: and the second repletion is called *quoad vires*, in which the vaynes do not swell, and yet they conteyne more bloud and nourishment then by nature can be ordered and gouerned. In the repletion *quoad vasa* (as *Montanus* sheweth) are two dangers, first, least by the immoderate quantity there should happen either suffocation, or the rupture of some vayne: and secondly, least the abundance of bloud should corrupt and putrefie. For the auoyding of both these perils, it is very expedient that in a full body a vaine should be opened, although no grieffe do draw vs thereunto, but only the meere fulnesse. For as *Hippocrates* sayth, *The full habit of the bodies of champions, if it come to the highest degree of fulnesse it is fraile and slippery, for it can not contiue long in the same estate.* The second kinde of repletion termed *quoad vires*, is rather to be holpen by medicins then by letting of bloud. For if raw and vndigested humours do abound in the body, the opening of a vayne will draw out much good bloud: but as for the bad bloud which is gathered in the first vaynes about the liuer and the middle entrals, it will draw it into the whole body, as *Galen* doth at large demonstrate, and therefore euacuation by some purging potion shall in this case be more fit then letting of bloud.

Yet

Yet when by the nature of the disease there is evident danger of a corruption and putrefaction of humours to ensue, then a little quantitie of blood drawn shall be much auaylable to anticipate and preuent it, if alwayes regard be had how farre the strength will permit, and what humour is especially mixt together with the blood in the vaynes. For as *Fernelius* sheweth, there is another way two kinds of repletion or plethora, the one is called pure, the other impure. *Montanus* maketh also two, the one simple, and the other compound. The pure doth consist of (in a manner) an equall portion of all the best iuices. The impure is an abounding of vicious humours in the vaines. If the plenitude come by choler, the vayne may the more plentifully make euacuation. But if the fulnesse come by steame or by melancholie, then must the euacuation be made by little and little at seuerall times when necessitie requirereth, and when the vaynes being ouer-full doe threaten danger. How all these seuerall kindes of plenitude shall be knowne, I shall haue occasion to declare more at large in the first Chapter of the second booke.

Fernel. method. medend. lib. 2. cap. 4.

The first vse of Phlebotomy, to wit, euacuation, hath place not onely in pure repletions, but also in all dangers of putrefaction, according to that of *Galen*: It is good to open a vayne *Gal. therap. not onely in feuers called synochi (which haue one method. lib. 11. continuall fit, and doe proceede of inflamed blood) but also in all other humours that stand in danger of putrefaction, when the regard which is had of age and strength doth nothing prohibite. For nature which doth dispose and governe our bodies,*

4 The first booke of
being lightened, and hauing put off that which as
a burthen did ouercharge her, will easily overcome
the rest in such sort, that it will concoct what
is to be concocted, and expell what is to be ex-
pelled.

This *διάρρησις* is
called of *Plat-*
erius euenti-
lacio.

To, Bapt. Mont.
parte 3. Medi-
cine vniuer-
salis.

The second vse of letting-bloud is called of *Mon-*
tanus euentatio, wherupon he maketh a secōd kind
called *Phlebotomia euentatina*, which is the venting
of any humour that doth boyle and bubble with-
in the vaines. For as the former, to wit euacuation,
hath respect vnto the plenitude; so this *διάρρησις* hath
properly a relation to the boyling and bubbling.
So (sayth he) in quotidianes and quartans we do
often let bloud, not because there is any fulnesse or
great multitude of ill humours, but because we
would by venting take away the boyling and
bubbling thereof. This venting hath place both
whether there be any putrefaction in the humour
or no. But if our scope and purpose be only simply
to vent, then is it best to do it by letting a little
bloud, and often according to the rule of *Anicen-*
na, Melior est multiplicatio numeri quàm quantitatis.
Otherwise if the case be compound that both there
be a fulnesse and a boyling, that we must both eua-
cuate and vent, then shall it be most fit to do it at
once, and plentifully and as long as the strength
will permit, as is taught at large by *Galen* in the
eight booke of his *Methodus medendi*. And in the
same booke speaking of some agues that are like
to Diarian feuers, and do come of obstructions, he
doth vse these words: *That the humour may be ven-*
ted wee haue neede of the great remedy, wee must let
bloud the party being of sufficient strength, although
there be no signes of plenitude. How it shal be knownen
when

Gal. method.
therapeut.
libr. 8.

when the humours do thus boyle and haue neede of venting, it shall be layd open at large in the two Chapters next following.

The third vse of letting bloud is called *antraxus* Revulsion: *Montanus* calleth it *Phlebotomia diuersa*, which is a plucking back of humours, when they are caried from any one part of the body into an other with force and violent course. *Enacuation* doth respect the fulnesse, *Venting* the bubbling vp, and *Revulsion* the violent course of the humour. How this revulsion must be made, is discussed in the seauenth Chapter of this first booke.

The fourth vse of blood letting is called *antraxus* deriuatio; of *Montanus*, *Phlebotomia deriuatiua*, which is a deriuing of a humour from any place where it is settled and impacted, into some other neere place, by which it may best be ouercome or auoyded. It differeth from revulsion two especiall wayes. First, revulsion is into places farre distant, as *Hippocrates* sheweth: We must endeuour to open a wayne distant as farre as may be from the place where the griefe is made or the bloud gathered, for so there shall be no danger of a sodaine change, and besides the custome being translated an other way, thou shalt make that there shall be no more flowing to the former wonted place. But deriuation of humours is into the neere places, as by which they may most fitly be auoyded, according to that of *Galen*: Deriuation is made into places nigh ioyning, but revulsion is made into places plaine opposite. Againe, an other difference there is, that revulsion is of humours now flowing, but deriuation is of them that are already settled, as is witnessed by the same Author: If the flowing be still caried in his violent course, we must vse revulsion

Hippocr. libr. de ossium natura. pag. 245.

Gal. lib. 5. de curand. morb. cap. 3.

Gal. lib. 4. method. therapeut. cap. 6.

6 The first booke of

to draw it to the contraries, but when the humor is settled and impacted in the place, then it is better to deriue it. He giueth the reason of it, for the change is neerer, and both the accesse and the drawing force of the purging medicine is more readie when the place is nigh. And what there he speaketh of medicins, the same he writeth of Phlebotomy. *Reuulsion* is the remedy of fluxes or rheumes still flowing, but deriuation is their help when they haue taken hold of any part: but both these kindes of euacuation doth Hippocrates commaund to be done by the common waynes. Thus much briefly concerning the first question, what Phlebotomy is, and of the foure seuerall kinds or rather vses thereof.

Gal. libr. 2. ad
Glauc. cap. 7.

CHAP. 2.

How letting of blood may be vsed in continuall agues called synochi, in hote agues, and how also in burning feuers.

BEing now to declare particularly, how Phlebotomy is to be vsed in most of the vsuall diseases which comonly do raigne amongit men, seeing there is no kind of infirmitie that hath more sorts of it selfe subiect to letting of blood then hath the Ague, I haue thought it not amisse to begin first with it. In the ague *synochus*, which hath one continuall fit, seeing that it proceedeth of the inflammation of blood, needs must the opening of a vayne be very fit and conuenient for it. But there are two kinds of it. The one is called *synochus mitior*, or *ephemera extensa*, in which only the thinner part of the blood is kindled, it is dissolued very often before the fift day, it hath the vrine somewhat reddish and thick, the pulse great

great and thick, but not evidently vnequall. And the other is called *synochus vehementior*, wherein the whole substance of blood is inflamed. It carrieth manifest notes of crudities, to wit, vnequalnes in the pulse, and the vrine red and thick, and the tongue waxeth somewhat rough and blackish. In either of these synochi letting of blood is requisite, and that as plentifully as strength will permit. If at the first it were omitted, it may be done in the fourth day or in the seauenth day, or after the seauenth day. But the best and safest time is euen in the beginning of the infirmity, as *Fernelius* sayth, *It is more safe to let blood when the disease approacheth, then when it hath already taken possession of vs, according to the old verse :*

*Fernel. method.
med. lib. 2.
cap. 6.*

Egrius eicitur, quam non admittitur hospes.

It is a more hard thing to cast out a bad guest, then it is at the first not to admit him.

And therefore *Platerus* willeth vs in these *synochi* *Platerus de febris*
sine putredine, wherein the blood is not putrefied *pag. 113.*
but inflamed, to hasten the letting of blood, not only to vent or euentilate the blood inflamed, but also to pluck back the same, least breaking out of the vaines into the principall parts, it doth stirre vp there most perilous inflammations. For *Platerus* and *Fontanonus* be both of this opinion, that the inflammations in the noble parts do follow these synochi, and not go before them. And therefore they do aduise in the first beginning to open a vayne, and if in the first day it be omitted when the ague is thought to be but an *ephemera*, an inflaming of the spirits for one day; yet the next day following, when it appeareth plainly that it is no *ephemera*, because it lasteth longer then a day, but

8. *The first booke of*
 that it is a playne synochus, then let out blood
 boldly a good quantity, according to the strength
 of the partie; or else take the lesse blood at once,
 and open the wayne either the same day or the
 next day againe, which is the safest way for such
 as be weake. In this ague doth the second vse
 of Phlebotomy, to wit, *euentatio*, or *euentilatio*
 greatly shew forth his power, according to that
 of Galen, writing of the hoat ague called *syno-*
chus: In whom soeuer the body in the multitude of hu-
 mours being made vnapt to vent and breath out, hath
 gathered such a heate that now it is come to a feuer,
 the party must be let blood as much as strength can en-
 dure, knowing that if this remedie be not taken, they
 which are so affected shall either be strangled by suffo-
 cations, or suffer syncopies and very dangerous swoon-
 ings wholly to ouerthrow them. Montanus writing
 vpon the thirteenth Canon of *Anicenna* concern-
 ing blood-letting, doth make three seuerall sorts
 of this hote ague comming of blood inflamed, and
 sheweth in which of them blood may best be let.
 The first is called *Homotona*, which from the begin-
 ning to the end doth keepe the same tenour. The
 second *Epacmastica*, which increaseth more and
 more vntill it come to state and vigor. The third
Paracmastica, which alwayes decreaseth. In the
 first and the last he admitteth boldly to let blood,
 but in the second sparingly, least strength and po-
 wer fayling the disease should ouercome nature.
 So also if it be *febris putrida*, or *synochus cum putre-*
dine, a feuer wherein the humor is putrified, he
 doth require a little before in the same booke, that
 we should not let blood in any great quantity:
Because where the humour is already putrified, al-
though

Gal. method.
 therap. lib. 9.

Montan. me-
 dicine vni-
 versalis part. 3.

though we should let blood euen till the strength fayle, yet should we not auoyde the putrefaction: for putrified blood is become earthly, and therefore can not be expelled. And if we let blood in a great quantity, the putrefaction will still remaine, and the vertue and strength will be made so weake, that we shall not be able to remove that putrefaction which remayneth. He obiecteth the example of Galen his practise, who in a certain seruant hauing this *synochus cum putredine*, did let blood plentifully to swooning or fainting. But he answereth to that place, that when Galen came to that seruant, the humour was not fully putrified, but only that there appeared some signes of putrefaction, and in the second day he opened a vayne. So that when the signes of putrefaction did begin he let blood, and not when the humour was already putrified: and further, it was a feuer alwayes declining. But he cōcludeth there, I say playnely that if the feuer should be with a putrefaction and a vaine should be opened, the patient should be killed. The most certaine signe to know when the ague is faulty only by meanes of the inflammation, and when it is faulty by the putrefaction, is (as *Trincauel* in his explanation vpon *Galen* doth shew) by the systole and diastole of the pulses. For there is a double vse of the pulse, the one for cooling of the spirits, and to that doth serue the diastole, or enlarging of the artery, for when the artery is enlarged a more cooling ayre being drawne in, doth temper the heate of the spirits. The other is that the smoaky vapour (which must needes be engendred by the force of heate working vpon moysture) may be so let out, that the spirits may be purified: and to this vse serueth systole the contraction or compression of the artery.

Gal. therap. meth. libr. 9. ad leptodumiam vide li. 2. ca. 8.

Montan. medic. vniuersalis part. 3.

Trincau. in explanatione lib. 1. Galeni de differentiis febrium.

artery. For while the artery is drawne and prest together, the hote ayre and smoky vapours are expelled and auoyded. Now it must needes be that betwixt these two contrary motions, a rest must of necessitie goe betweene them. When there is neede of cooling, there the diastole or enlarging of the artery is swifter, and the inward pawse or rest is shorter: but where there is more neede of auoyding moyst and putrified excrements, there the systole or contraction of the artery is swifter, and the outward pawse is shorter. And this later he maketh to be the most certayne note to know all putrified agues, in which the humours rotting, many smoky vapours must needes be engendred, this he calleth so proper, familiar, inseparable, and certaine a signe to know and discerne putrified agues from others, that it neither doth nor can deceiue. An other signe there is of a putrified ague, when *exspiratio est inspiratione insignior*, when the breathing out is more euident then the breathing in, because there is more neede of exhaling putrified vapours, then of cooling. *Alex. Massaria pag. 134.* sheweth sundry causes why letting blood should be good in putrified agues, first, it cooleth and dryeth, and all cooling and drying things are good for putrefactions. Again, it is good in respect of the ague, and last of all it helpeth much transpiration, by meanes whereof it must needes be good to help putrefaction. When *Montanus* affirmeth that to let blood in putrified agues is to kill the patient, he meaneth a liberall euacuating of blood, but otherwise his words before do shew plainly that it may be done moderately to vent the vapours. And *Platerus* sheweth an other cause why it ought

*Mont. medic.
uniuers. part. 3.*

*Platerus de
febris
pag. 113.*

to be done, because the occasion of putrified agues doth lie hid in the blood and in the branches of the hollow vayne, together with the blood is avoided some portion of the putrified humour. Of the same iudgement *Fernel. in methodo generali de curandis febribus.* is *Fernelius*, The opening of a vaine which may take away both the multitude and also a great portion of the putrified humour, doth greatly auayle to the curing of the feuer. And an other reason sheweth *Galen. method. therap. lib. 11.* *Galen* why this must be done, because nature being disburthened of a part, shall the more easily overcome the whole, as I haue declared in the Chapter going before in the first vse of Phlebotomy.

If the ague be that which is called *Causo* the burning feuer, whose matter is not the heate of blood, but the burning of choler (and whose signes are tossing of the body, an vnsatiable thirst, the tongue dry and rough either yellow or black, a nipping about the stomach and liuer, yellow excrements, the vrine very thinne and something wanne, the pulse swift, thick and hard, doating, a little sweate about the forehead and neck, but euery where else the skin very dry, and therewithall a little rough) letting blood may also well be vsed at the beginning, but in no great quantity, only foure or five ounces for venting or euentilation are sufficient. *Auicenna* in his curing of the *Causo* doth affirme, *Auicenna. prima quarti.* that blood is not to be let in it, vnlesse there doe appeare rednesse and thicknesse of vrine, but that is not *Causo*, but rather *synochus*. *Montanus* sheweth, that the true continuall burning feuer seeing that the matter which doth putrifie in it (to wit choler) is most hote and most dry, it becommeth in a manner altogether fiery. *Montanus in canonem. 11. Auicenna in medicine vniuersalis part. 3.*

Hippocrates teacheth the way of curing a burning *Hippocr. de ratione victus*

in acutis, sect. 4
pag. 382.

ning feuer by quenching the burning heate, by giuing water and *mulsa aquosa*, but he maketh no mention of letting of blood, thereupon *Montanus* doth conclude: that letting of blood is not to be permitted in a burning feuer. But I thinke *Montanus* his argument in that disputation vpon the eleuenth Canon of *Auicenna* is of small force. For although *Hippocrates* do not precisely commaund in that place blood to be let in a burning feuer, yet he maketh it in the same place to be a signe of the dissolution of the disease if the patient do bleede at the nose: and presently vpon it he vttereth these words, *At in morbis acutis sanguinem detrahes si vehemens fuerit morbus, & qui agrotant atate florenti fuerint, & virium robore valuerint.* *Platerus* doth require in the Causo or burning feuer, that there should be a liberall letting of blood if strength do permit, because he thinketh it not to proceede of pure choler (as many other Phisiticians haue taught) but of blood putrified and inflamed in the great artery, and causing so much the more dāgerous feuer as it is kindled in the trunck of the great artery neereſt vnto the heart. If *Hippocrates* do require Phlebotomy in *morbis acutis*, then must it needes be good in the burning feuer, which as *Trincanell* declareth is *maximus & acutissimus morbus*. But still in the quantity *Hippocrates* his rule must be obserued, to haue a due regard of the age and strength.

Platerus de
febris
pag. 115.
& pag. 55.

Trinc. de ratione curandi
part. corp.
affect. lib. 2.
cap. 11.

The

CHAP. 3.

How bloud-letting may be admitted in agues caused by obstructions, as Diaries &c.

Galen sheweth, that by obstructions sometimes the transpiration and vapouring out may be intercepted, and by the obstructions they which haue bad humours fall

Gal. meth. med. lib. 8. cap. 4.

into agues, as Diaries and such like, and in them he requireth as very expedient the opening of a wayne, first for venting or euentilation: for as he saith, vnlesse the bad humour be vented, it must needs become putrified: and secondly, because those things which you shall minister afterward to deliuer from obstructions will worke more effectually. For it is best to come to deterge and loose obstructions, hauing first by bloud-letting (for he speaketh there of Phlebotomy) anoyded part of the euill humours. For we seeking to deliuer the obstructions before we haue made enacuation, it is in danger that we shall impact the obstructions more firmly then before.

How the greatnesse of the obstruction shall be knowne, Galen sheweth a little after in the same booke, The declaration of the quantity of the obstruction is made manifest by the ague: for vpon greater obstructions the ague is greater, and vpon lesse obstructions it falleth out to be lesse. Montanus being fallen into the consideration of this place of Galen, doth make three seuerall kindes of obstructions, and sheweth in which of them bloud-letting is requisite, and in which not. The fyrst obstruction is when in the pores of the skinne in the outward parts the transpiration and va-

Gal. method. therapeut. libr. 8.

Bapt. Montan. medicina universalis parte tertia.

pouring

The first booke of
pouring out is stayed and prohibited. The second kind of obstruction he calleth *coarctatoria*, when such a multitude of humours is conteyned within the vaynes, that the passage of the spirits being stopped, they cannot passe thorough the vaynes, whereby there commeth a perill of suffocation. The third obstruction is called *oppilatio*, whē some tough matter doth so stop the conduits and chanelles of the vaynes, that neither matter nor spirits can passe thorough them.

In the first kind of obstructions Phlebotomy is good, because by it the body is made more thin, and humors being without the vaines in the compasse of the skinne, are by bloodletting drawne into the vaines, and so do passe away, as *Montanus* doth demonstrate out of *Galen*.

*Gal. de sanit.
tuenda libr. 4.*

In the second kind of obstruction letting blood is also conuenient, that the thronging together of humours may cease, and that blood may be vented. But in the third kind of obstruction it were ill done to let blood, because the thick humour which is impacted in the first vaynes, is not thereby euacuated, but rather increased, as the same author doth proue out of the same fourth booke of *Galen de sanitate tuenda*. I thinke he hath respect to that position of *Galen*: In a werisome and faint body there is little good blood, and many raw humours. Phlebotomies do annoyd the good blood, but as for the ill blood which is gathered together in the first vaynes, especially that which is about the liuer and mid bowels, they disperse and spread it throughout all the body. How in the two last kinds of obstructions the humour must be prepared and made fluxible, before we attempt any letting of blood, it is to be declared

ibid.

red hereafter in the third Chapter of the second booke. But the question is here only of the first kind of obstructions, when in an ague called *diaria* or *ephemera* (which lasteth not about 24. howres) by reason either of the constipation or thicknes of the skinne the spirits and vapours haue lost their accustomed flowing out, whereby the spirits are inflamed, whether in this ague blood is to be let or no? I answere, that according to the iudgement of many excellent Physicians of our time, this ague is best overcome by causing kindly sweates, by medicines loosening obstructions, and by vsing fit bathes without letting of blood. But if it do continue more then a day, that it be now *diaria plurium dierum*, or as some call it *ephemera extensa*, then all do agree that letting of blood is very expedient, for feare least of an ague not putrified it do become a *synochus putrida*, and so bring greater danger. For as diaries or agues of one day do passe into diaries of many dayes, vnlesse the obstruction be loosened as *Galen* sayth; *Vnlesse the obstruction be cured they fall into agues of many dayes*: so also the diaries of many dayes do fall into putrified agues and hectick feuers, vnlesse they be in time holpen and eased, as the same *Galen* sheweth in the first page of his ninth booke *de methodo medendi*. But concerning letting of blood, *Galen* doth in the tenth booke generally set downe his iudgement very briefly concerning all diaries caused by obstructions. One obstruction commeth by multitude, and an other by the quality of the humours being too tough, or too thick, In that which commeth by multitude, letting of blood is the chiefeest manner of caring, but in that which commeth by the quality

Platerus de febribus pag. 286. Fuchsius de morbis mendendis. lib. 4. cap. 1. Brighius in therapeutica.

Gal. lib. 10. method. medendi.

Gal. method. therap. lib. 10.

CHAP. 4.

How farre letting of blood may be allowed in inter-
mitting agues, quotidianes, tertians, quartaines.

Mont. medi-
cine vniuersa-
lis parte. 3.

Vide finem
tertie partis
medicine vni-
uersalis Mon-
tani.

Montanus affirmeth, that in a phlegmatick
ague, if the fleame be thick and of a glassy
greene colour, as it falleth out in the a-
gues called *epi-ale*, then in no wise may any vayne
be opened, because although there be a great boy-
ling, yet we haue neede of a great heate, that the
matter may be concocted, and the passages ope-
ned; and therefore he thinketh that we haue neede
rather of frictions. But if it be *pitu-ita dulcis*, such a
fleame as may easily be conuerted into blood,
then he alloweth letting of blood as a fit help to
remoue the obstruction. He sheweth in the same
place a little before, that the chiefest cause why we
sometimes vse phlebotomy in quotidianes & quar-
taines, is to vent the vapours. *It respecteth not the
multitude, but the quality, because it is done only to
help the bubbling of the humour.* In the tertian he
sayth, that Phlebotomy is not necessary, neither
euacuatue, because there is no fulnesse of blood,
but only euill humours mixed with the blood,
nor yet Euentatue, because the paroxysmes of
the tertians continue not aboue twelue howres,
and haue a great distance of intermission, and
therefore can not haue so great a boiling as should
need to be vented with so great a remedie as is
Phlebotomy. And as touching the quartaine, he
sayth, that blood-letting doth not agree vnto it of

it selfe as it dependeth of melancholick humour, but *per accidens*, as when it commeth vpon the suppressing of the menstrua or hæmorrhodes, or when it commeth *ratione sanguinis adusti* by meanes of burnt blood, then he alloweth the letting of blood.

Platerus doth thinke that all intermitting agues *Platerus de febris* do proceede of a putrified cause, lying hid in the mesaraick waynes, and therefore if any of them could be opened, he supposeth some help might come: but seeing those mesaraick waynes do nowhere appeare at the skinne, it were best not only in quartaines but also in tertians (if possibly it may be) to cause a flux of y^e hæmorrhoids, because the hæmorrhodiall waynes are branches of y^e mesaraick vaines. He will haue no wayne to be opened there, vnlesse it appeare exceeding well, because a small wound made there, doth bring oftentimes great torments: but he will haue either the flux to be procured by some medicine, or else leaches to be applied. He alloweth not phlebotomy in exquisite tertians, and such as are afflicted with most vehement heate, by reason of choler inflamed, neither doth he thinke it fit in phlegmatick agues, in which cases he which shall rashly and vnskilfully let blood, shall not only auoid nothing of the cause lying hid in the mesaraick waynes, but also as he sayth, the matter being plucked out of the mesaraick waynes into the hollow wayne, he shall of an intermitting ague make a continuall ague; or else, the purer blood, *Plat. ibid.* by reason of emptying the branches of the hollow wayne, being drawne out of the mesaraick waynes, that cholerick and putrified humour which remayneth (and whereunto blood was before a bridle and a meanes to assuage it) will now become more fierce. Therefore he

concludeth, that in these kindes of agues more harme is done by admitting Phlebotomy then by omitting it, vnlesse some grieuous symptome do happen, that by the inflaming of blood an inflammation also of some of the inward parts be feared, or vnlesse there be a plethora or plenitude in the body (which may be obserued by the rednes and thicknes of the vrine, and by the long continuing of the heate after the fit, and when there is no fit) then not in the beginning of the ague, but about the third or fourth fit, in the day of intermission, out of that vayne of the arme that appeareth most filled, it will do very well to let blood 5. 6. 7. or 8. ounces. In quartains it must be done in y^e left arme, & somewhat later then in tertians: For quartaines are at the beginning gently to be handled, least a double quartain or a triple quartain be made, and least also the strength should decay, which heere we must preserue by reason of the long continuance of the disease. Fuchsius in an exquisite tertian (which proceedeth of meere choler, not mixt with any other humour) doth proue out of *Galen ad Glauconem*, that neither letting of blood, nor vehement purging medicine can be conueniēt for it. Doctor *Bright* doth thinke requisite that in the first day of intermission (to ventilate the body) 6. or 8. ounces of blood be taken. These iudgements do seeme to be contrary, but yet the seuerall circumstances being considered, they may both be very well reconciled. For as *Fernelius* sheweth the opening of a vayne in respect of it selfe is hurtfull to an exquisite tertian, it taketh away the profitable and necessary humour, and leaueth behinde the impure and hurtfull. Againe, in this kind of ague the body is wont to be very thin
and

Plater.
Ibid.

*Fuchsi. de mor-
bendis morbis*
lib. 4. cap. 6.

Brightus in
therapeutica.

Fernelius in
*methodo gene-
rali de curan-
dis febribus.*

and of little bloud: But the sharp choler which is the matter of the ague, and doth abound and boyle under the hollow part of the liuer when bloud is taken away doth waxe more fierce. Yet he alloweth there letting of bloud in respect of other symptomes, such as are headach, beating of the temples, and heauinesse of the body, in corpore plethorico. In tertiana notha, or the bastard tertian, where choler is for the most part mingled with fleame, or where choler doth not make it selfe the matter of the ague, but doth kindle other humours (which may be knownen in that the pulse is much lesse, thinner and slower then the other, and the heate also lesse) then is no bloud to be taken at the beginning of the Ague; but afterward the matter being prepared, when the vrine doth appeare red and thick, a vayne may be opened the day going before the fit, and foure ounces of bloud may be taken. But if the bloud prooue thin and somewhat yellowish, then must you straightway suppress it. In the melancholick quartaine if it come vpon the staying of any vsuall or naturall purging of bloud, then stirre vp that if you can: if you can not, then within the 14. or the 20. day let a little bloud out of the saluatella, if the strêgth be weake; or otherwise out of the basilica of the left arme, hauing before giuen a clyster. But if the quartain do come *ex atra bile* of black choler, which hath fits beginning with lesse shaking, and those also shorter then the melancholick (for the melancholick continueth 24. houres) and is also accompanied with a sharp heat and vehement thirst, and with much more vnquietnes then the melancholick, then you may let bloud in the beginning foure or five

Fuchf. de morbis mendendis lib. 4. cap. 7. Brighus in therapeutica.

ounces out of the basilica of the right arme, and the next day after if strength will permit two or three ounces out of the saluatella of the left hand. If that the black choler do proceed of burnt blood you may let out more then if it proceed of any other humour. That learned *Heurnius* sayth, *Black choler is ougly, and doth spring of some burnt humour; but melancholy is the very melancholick iuice or the dregs of blood.* These are of a nature farre differing. For to black choler are due those things which may pacify the fiercenes of it, as Violets, Endiue, and such like : but to melancholy are due such things as are moderately warme and opening, as the rootes of Capers, the aperitiue rootes, and such like, alwayes adioyning to them such things as haue *vim humectandi* a moystening force. And as in potions and medicins these two require a far differing methode, so also (as you haue alreadie heard) in the manner and time of letting of blood.

In the intermitting agues we must not haue a bare and naked respect only to the feuer it selfe, but we must heedily regard all the symptoms and dangers which may ensue by the meanes of other accidents, as *Trincavel* in his Commentary vpon *Galen ad Glauconem* doth at large declare by the example of an exquisit tertian. An exquisit tertian (sayth he) was neuer in respect of it selfe counted amongst great diseases, and therefore Phlebotomy doth not properly appertayne vnto it. But in other respects it is not only profitable, but also necessary, when regarding the state of the body, our scope and purpose is to preuent and auoyd future mischiefes. For often may an exquisite tertian passe either into a continuall ague, or into a burning
ague.

*Heurnius lib. 2.
method. ad
traxim.*

*Trincav. in
explanatione
lib. 1. de arte
curatiua ad
Glauconem.*

*Trincav.
Ibid.*

ague, when the body is full either of bloud or of choler.

His reason is because bloud may by reason of the multitude putrifie: and also choler if it be much, and the strength do grow so weake that it neither can gouerne it nor expell it, it must needs more and more putrifie. And also according to Hippocrates easily may a tertian be conuerted into a plurify. For these causes (saith *Trincauel*) the opening of a wayne may haue place in an exquisite tertian, but that according to *Anicenna* must be vntill the third fit. Thus in all intermitting agues, though not in all after the same manner, nor in the same time, nor in the same quantity, nor for the same end and purpose, that axiome of *Galen* holdeth firmly, that not onely in continuall agues but also in all other agues whatsoener where any humour doth putrify, it is good to open a wayne. You haue his words and his reason in the first Chapter of this booke set downe at large in the first vse of Phlebotomy. One generall note to know in tertians and quartaines whether any bloud may be spared, is y^e thinnesse and y^e yellowishnesse of the bloud. For the same which *D. Bright* doth write in battard tertians, that if the bloud do prouethin or yellowish, we must straight stop. The same doth *Fuchsius* require in quartaines, that if the bloud do appeare black and thick, such as is commonly in splenetick men, then we shall let the party bleede more largely; but if the bloud doe prouee thin and yellow, then must it be presently stayed: for such a humour is not unprofitable, but as well by his substance as also by his quality it doth amend the thick and cold humours.

*Hippocr. libr.³
de morbis.*

*Trinc. in expl.
libr. i. ad Glauconem de arte
curatina.*

*Gal. therap.
method. lib. i.*

*Bright in the-
rapent.*

*Fuchf. de mor-
bendis morbis
lib. i. cap. 8.*

Alexander Massaria chiefe Doctör and profes-

*Massaria de
scopis mit-
tendi sanguinis
pag. 132.*

*Gal. lib. 1. ad
Glaucanem
cap. 19.*

*Massaria
pag. 21.*

*Heurnius libr.
de morbis
capitis cap. 10.*

for of the Vniuersity of *Padua*, a man of excellent iudgement, doth in his late treatise concerning Phlebotomy differ from the opinions of *Platerus* and *Fernelius*, as touching letting blood in tertian agues; and alloweth letting blood sometimes in exquisite tertians, and sometimes in bastard tertians, alleaging the auctority of *Galen*, so that it be done *volens uter' ap'p'ne*, straight in the beginning, and other things duly considered, as the strength and plenitude, and due preparation of the body. And he wondereth what *Auicenn* should meane, when he sayth, that vpon immoderate bleeding cholerick humours do more boyle and rage, whereby the patients are more inflamed, whereas experience doth testifie that vnseasonable or excessiue bleeding doth bring rather dropsies and cold and bad habits of body, then any boyling heate or inflaming. If in tertians the cholerick humours of the body be first drawne away and the bowels euacuated by a glister, and a fit time chosen for the opening of the vayne when the stomach is fasting and empty, I see no reason but the stomach and bowels should draw back sufficiently to keepe the mesaraick vaynes from sending any such store of humours into the hollow vayne, as should putrefy the blood in it or the branches thereof. And the rather do I yeeld more to the iudgement of *Massaria*, then of *Fernelius* and *Platerus* in this point, because the most learned and expert Physicion *Heurnius* doth testifie, that in letting blood in cholerick bodies we do often auoyd more choler then blood, and by experience I haue found it very oft to do much good & bring present help towards the beginning of tertians, although after the fift or

fixt fit I haue not seene much good to come there-
 of. But in quartain agues *Massaria* cleaueth to that
 of Galen, We must deale softly and gently with quar-
 taine agues at the beginning, and neither vse any strong
 purging nor euacuation of blood, unlesse it do mightely
 abound: And if to him that openeth the wayne the
 blood do appeare black and thicke, such as especially is
 found in splenetick persons, let him let blood the more
 boldly; but if it appeare yellow and thin, let him straight-
 way suppress it.

Massaria

pag. 133.

Gal. libr. 1.

ad Gaucconem.

cap. 11.

CHAP. 5.

Whether letting of blood be to be admitted in the plague
 or pestilent feuer, as also in the Pox and such other
 contagious infirmities, and when and how.



Vicenna in his eleuenth canon concer-
 ning blood-letting (as *Montanus* hath
 deuised them) doth set it downe for a
 rule, that in what agues soeuer there is a
 most vehement inflammation, there must be no
 letting of blood. *Montanus* discoursing vpon that
 place, sayth, that we must regard not so much what
 the disease requireth, as what the strength can
 beare, In respect of the disease Phlebotomy doth a-
 gree, but not in respect of the powers. He bringeth in
 an instance of a pestilent feuer, and sheweth that
 blood is not to be let in it, because although of it
 selfe in regard of the pestilent feuer there is no
 greater remedie then letting of blood, seeing that
 by it the body is made apt to vent and vapour out
 the spirits, the inward heate is extinguished, and
 putrified blood is euacuated: yet if blood be let all
 do dye, and therefore we must abstaine from Phlebotomy

Mont. medic.

vniuers. part. 3.

*Mont.**Ibid.**Mont.**Ibid.*

Platerus de
febris
pag. 225,

Plater.
Ibid.

in the pestilent feuer, because in a moment of time the strength utterly decayeth. Platerus sheweth sundry great dangers which letting of blood doth bring vnto them that are infected with the plague, and that little good helpe can be expected thereby. I cannot see how Phlebotomy can auayle to pluck that venemous quality from the heart, or to bring it out of the body together with the blood, seeing that it is rather procured thereby, that the infection which from outwardly commeth into the body and doth presently infect the spirits, should be drawne more deeply inward. And moreover the motion of nature (whereby straightwayes in the first inuasion it goeth about to shake out the poyson by sweates, by outward pustles and by botches) may be hindred by letting of blood, and the powers thereby weakened, which we ought to keepe strong to expell that poyson. It neither doth auoyd the cause of the disease, neither is there any neede heere of any euentilation of heate, seeing it is not heere so vehement. Herenpon he concludeth, that vpon rash and vnduised letting of blood in plague times many mē are killed. Yet he acknowledgeth that when the plague hath taken hold vpon bodies which are *summē plethorica vel cachectica*, full of blood or of corrupt humours whereby a feuer is kindled, then if by opening of a vayne the plenty and putrefaction of the blood be taken away, all the other symptomes will become more tolerable: but that must be done sparingly, and with a due regard of the strength. And if in the beginning strength be decayed, then is Phlebotomy not to be admitted, though the fulnesse of the vaines doe require it: for of lusty youtnes we haue found by experience more to escape in the plague time without letting of blood then by letting
of

of blond. If Phlebotomy be used it must be done rather in respect of the feuer then of the pestilent qualitie, seeing that this venome doth not consist in the blood, but comming from outwardly doth sodainely possesse the heart, and we do not thinke that it can be expelled or drawne out from it by Phlebotomy. And if the case do so stand that by the meanes of the plenitude and feuer a vayne must needs be opened, then he sheweth in what order it must be done. First, it must be done in the beginning: for vnlesse the vayne be opened within 24. howres of the beginning, it will rather hinder nature then do any good. Also it must be considered whether the party be in a sweate or no: for in no wise must the sweate be hindered by Phlebotomy. But after the party hath sweat and hath bin refreshed with a little meate or some cordiall receipt, then may a vayne be opened howsoever there hath gone no clyster nor purging before, becaule the time hath not giuen leaue. Choose the vayne in that side which is most griued. If any eruption appeare about the flank open the saphena. If in the vpper parts, then some vayne in the arme or hand of the same side. If vnder the arme-hole, take the basilica. If about the eares, the cephalica. If in the face, open the vayne vnder the tongue. And euer to the botches appearing, let cupping glasses be fastned, that the poyson may abide in the same place, and not by Phlebotomy be drawne into the inward parts. *Trincauel* doth accompt it very dangerous to let blood when pimples do outwardly appeare: but when as well by the pulse, as by the former manner of diet which the party hath used, it is found to be expedient; then let it be done straight in the begin-

ning

*Trincauel
tractat. de
febre pesti-
lentiali.*

The first booke of
ning before the putrefaction of the pestilent feuer be
much increased; and before nature do seeke to expell
unto the skin. Thus he prooueth out of Galen, who
 commenting vpon one of Hippocrates his patients,
 called Crito, who dyed vpon a kind of pestilent fe-
 uer, he doth excuse Hippocrates and sayth that he
 did not let him blood, because he was not sent for
 at the beginning of the disease. Which signifieth
 that if he had bin sent for at the beginning, a vaine
 no doubt should presently haue bin opened.

Hippocr. de
 morbis vulgar.
 lib. 1. sect. 7.

Montan. in
 initio consul-
 tationum me-
 dicarum.

Fernel.
 consil. 67.

Montanus in his epistle to Crato doth allow let-
 ting of blood in the small pocks and such other
 contagious diseases, so that it be in the beginning
before signes of putrefaction appeare: but when it hath
 once preuayled, then to let blood he doth call it
a pernicious and a deadly thing. For nature is then
 checked when it should wholly be intentiue to ex-
 pell the venom and infection of the disease. Ferne-
 lius, Hollerius, and Syluius, three famous and wor-
 thie Physitions, consulting about the sweating
 plague called *sudor Anglicus*, did deliuer to the
 English Embassadour the vse of blood-letting a-
 mongst the meanes to preuent the disease, in full
 bodies, the bodies being first orderly purged: but
 the disease hauing once taken hold, they aduised
 no blood-letting, but prescribed good cordials to
 expell from the heart the venomous infection.
 But in that which is commonly called by the name
 of Plague, although the body be already infected,
 yet if it be *corpus plethoricum* (the notes whereof
 are in the first Chapter of the booke next en-
 suing) wee may be bold to begin the cure with
 blood-letting, obseruing as neere as may be the
 cautions before expressed, and especially taking
 heed

heed (as *Montanus* giueth warning) that wee choose the vayne as farre as we can from the principall parts, from the heart, liuer, and braine, for if we draw the pestilent humour vnto them he sayth we shall kill the patient.

*Montanus
medicina uni-
uersalis part. 3.*

CHAP. 6.

How letting of blood is to be vsed in phrensies, quinsies, plurisies, inflammations of the raynes or wombe, and other inward inflammations happening often without agues.

IN the phrensy (which is a deprauing of all the principall faculties of the braine) caused by the inflammation of the filmes thereof) *Rhazes* doth allow Phlebotomy in the beginning of the disease, but not if it be a hectick phrensy of any continuance. *Celsus* doth affirme, that the face being red and the vaynes swelling, a vayne may be opened after the fourth day, if strength be sufficient. But if it come of a cholerick cause, then it should seeme to be ill done to let blood, because as *Heurnius* obiecteth *frenum bilis est sanguis*, blood is the bridle of choler. To this he answereth, *Male sanguinem sine bile educeremus, imo plus bilis educimus quam sanguinis*, Hardly can we auoyd blood without choler, yea rather by Phlebotomy we do bring out more choler then blood. And if it were done but only for deriuation sake, yet were it well done. But at what time must this Phlebotomy be vsed? *Calius Aurelianus* sayth that it must be done within three dayes of the beginning, and not beyond, because in such diseases

the

*Heurnius de
morbis capitis
cap. 10.
pag. 114.*

the strength of the body is in perill. *Aretæus* also sayth, that it ought to be done either the first or the second day. If the phrensy begin after the fourth day, then open the vayne after the seauenth day: but if it do come in the sixth or seauenth day, then let no blood, for that is a criticall phrensey. *Aëtius* sayth, that if the phrensy do come with an ague any day before the fourth day, and signes of plenitude appeare, wee may well open the middle vayne. When the phrensy is old, letting blood is not safe. *Calius* sayth, that to let blood after the eight day *est iugulare homines*, is nothing but to murder men. The quantity must be according to the cause. If it proceede of inflamed blood, you may let blond *vsque ad animi deliquium*, till the heart begin to fayle. For there is a vehement inflammation, a very sharp feuer, and exceeding great grieve, in which three cases *Galen* alloweth large Phlebotomy. But if the blood be much mixed with choler, then sixe ounces shall suffice, or if the party be strong, tenne ounces. *Aretæus* his opinion is, that if it haue the first beginning from the parts about the midriffe, then the party may bleed more largely, because thereabouts lyeth the fountayne of blood. *What you do you must do at once, for the disease doth giue no long truce.* *Trallianus* commaundeth the vayne of the forehead to be opened. But that *Heurnius* doth condemne, as ministring a further increafe to the disease, especially if the phrensy come of blood: for both the blood should turne his course into the head, and also the euacuation should be made by the very place affected, which should be as he thinketh very inconuenient. The course which *Heurnius* doth best like of,

1. Aph. 13.

6. 1. Aph. 23.

*Heurnius de
morbis capitis
cap. 10.*

of, is this, first to open the middle wayne of the arme, and after to open either the wayne of the forehead, or the wayne vnder the tongue.

For the Quinsie or Squinancie, the swelling of the throate, causing difficultie of breathing, and hardnesse of swallowing, *Trincau* doth aduise a speedie letting of blood; yet a glister being vsed before if the disease will giue leaue: but if the disease (as it is a very sharp disease) will giue no space, then may we do as *Hippocrates* sometime did, that is, first let blood, & afterward minister the Clyster. *Fuchsius* willet vs to open the basilica of the arme of the same side where the swelling is. But he will haue it to be done at seuerall times by little and little, and not all at once, least there should happen a swooning, and so a perill of suffocation: and besides, *By two sodaine coolings and by fainting of the heart, the matter may be caryed from the iawes vnto the lungs, and so bring ineuitable danger.* Yet must not the incision be made too little, least by meanes of the narrownesse of the hole the good blood should be as it were strained out, and the thick part remaine within, which is the cause of the grieve. If the patient be a woman whose termes are stayed, open first the saphena, and then the vaine vnder the tongue. For the pleurisy, how conuenient blood-letting is for it, it is a thing so well knowne to all men, that there needeth no prooffe thereof. But on what side the wayne must be taken, whether on the same side that hath the inflammation, or on the contrary side, seeing that there is amongst learned Physicians a great controuersie about that matter, I haue appoynted one Chapter, to wit, the Chapter next following, wholly for the discussing of that question.

Trincau. de ratione curandi partic. corp. affect. lib. 5. cap. 7.

Hippocr. 2. de ratione victus in morbis acutis.

Fuchsi. de mendendis morbis lib. 2. cap. 5.

question. And for as much as also all the arguments layd open in that disputation do as well concerne the inflammation of the raynes and of the wombe, and all other inward inflammations as the pleurisy, I haue thought it good to speake no more of the particulars heere, but rather to conclude with that generall speech of Galen. *To speake briefly, when inflammations do begin, we must euacuate them by reuulsion (that is, pluck it back into the parts furthest distant) but when they are of long continuance, we must empty them out of the places affected, or as neere vnto those parts as we can. For at the beginning of inflammations it is good to turne back that which floweth, but when they haue remayned a long time, we must auoyd and expell that which is impacted and fastened in the part affected.*

*Gal. libro de
ratione curan-
di per vena
sectionem.*

CHAP. 7.

In these dangerous inflammations aforenamed, whether euacuation or reuulsion be more necessary, and what is the meaning of Hippocrates his rule verum, to worke directly, and with a right course of flowing.

P*etrus Brissotus, and Matthæus Curtius, two learned Phisitions, the one a Frenchman, and the other an Italian, haue by many arguments prooued, that in a pleurisy the wayne ought still to be opened in the arme of the same side where the griefe lyeth. Trincanel in his treatise which he calleth rudimentum, hath vnder-*
taken to confute them. The first reason of Brissotus is, because in such sharp diseases, vnlesse you help presently the party dyeth. And the first scope in an
inflam-

*Trincanel
Consil. pag. 971.*

*Ratio prima
Brissoti.*

inflammation is to auoyd blood out of the place inflamed, for the performance whereof the same side is most conuenient. *Trincanell* answereth, that when the party hath no full body, then that position may well stand. But if there be a full body, then he holdeth with *Galen*, that the scope and purpose of the Phisition must be to forbid that the blood shall not flow to the place of griefe. For the flux of the blood doth *Galen* make to be the cause of the vehement inflammation. And this staying of the flowing of blood he thinketh may best be done by euacuating, so that we may also reuell the same by drawing it back to the contrary side. *Brissotus* againe obiecteth, that by reuulsion there is often stirred vp a pleurisy on the other side, vnto which the reuulsion is made. *Trincanell* doth answer, that doth happen by meanes of the fulnesse of the whole body, especially of the lower parts, when the opening of the vpper vaynes can not auoyd so much as is drawne vpward out of the inferior parts of the body: whereupon the humour following, the motion which is made by the force of the vayne cut, settling on that side, doth giue an occasion of a new inflammation. And therefore when there is a plenitude in the whole body, especially about the lower parts of the belly, he doth greatly commend the custome practised for many yeares with good successe by the Phisitions of Venice, to wit in this, to open the vayne about the knee, or about the ankle. And he sheweth, that in his owne experience in the same time that he was writing that treatise, he cured an old man of 60. yeares of age (who hauing a body *verè plethoricum*, was fallen into a plurisie) by causing the vayne to

*Gal. libr. 2. ad
Glauc.*

*Ratio secunda
Brissoti.*

be

Hippocr.lib.3.
epidem.

Hippocr.6.
epidem.par.2.
apb.19.

Vide finem
sexti capitis
huius libri &
finem primi
capitis.

Galen lib.4.
method.
therap.cap.6.

Gal.method.
therapcut.
lib.13.

be opened hard by the ankle. If *Hippocrates* did sometimes open the vayne in the arme of the same side where the pleurisie did lye (as *Trincanel* doth make accompt he did in the curing of *Anaxion* the Abderite) it was because the disease was fully made, and the matter already flowed. But in the beginning of the flowing of the humour, neither *Hippocrates* nor *Galen* do allow the same kinde of euacuation, which afterward they admit when the flux is already made. *Hippocrates* sayth, If humours be carryed into that part which they ought not, we must reuell them, but if they flow the same way they ought, then to open the passage to them according as euery one is bent. And what his iudgement is touching this matter, you haue it set downe in the end of my Chapter last going before, and also toward the end of my first Chapter, where are cited the words of *Galen* concerning an vlcer caused of a flux, that if the flowing be vehement we must pluck it back into the contrary parts, but when it doth cease and rest settled in a place, then is it best to deriue it. Vpon which point also *Galen* doth inferre there a generall conclusion. It is a generall thing that when fluxes doe begin, wee must vse reuulsion; but when they are settled in any affected part, then euacuate them either from the same place, or from some other place as neere as can be. He speaketh there of purging by medicines, but in the 13. and 14. booke of the same method of healing, he requireth the same order likewise in letting of blood, and repeateth againe as a generall axiome, euer make the reuulsion to the furthest parts off. So commenting vpon *Hippocrates*, he biddeth vs first make reuulsions, and afterward set vpon the contraries, to make locall eu-

euacuations

cuations as he himselfe doth expound it by the example of griefe in the hinder part of the head, which is taken away by opening the vayne of the forehead. And so in an other place, if the right leg haue an inflammation, he appoynteth a vayne to be opened in the left. *Fuchsius* hath framed sundry answeres to those testimonies of *Galen* in the 13. booke of his *Methodus therapeutica*. First he saith, that his generall axiome, that reuulsion must be made alwayes to places furthest distant, can in no wise be wrested vnto letting of blood, seeing that *Galen* doth not speake there of letting of blood, but of purgings, vomits, cupping-glasses, and such like. I wonder that *Fuchsius* should make that answer, seeing that *Galen* doth not only often in the leaues last going before make mention of Phlebotomy, but also when he hath made this generall precept with *et, semper*, alwayes reuell to the furmost, he sayth in the lines next following, that he hath spoken of this in his bookes of Plenitude and Phlebotomy. *These things are written in my bookes of fulnesse and blood-letting.* Secondly, *Fuchsius* saith further, *aliquando vena sectione ad longinqua reuellimus, sed hoc fit in futuro morbo*, sometimes we make reuulsion by blood-letting into places farre distant, but that is when the disease is to come. If *Fuchsius* confesse so much, then he agreeth with *Auicenn*, *Montanus*, *Trincanell*, and such as hold with them. For they all do teach that reuelling into places furthestmost distant is not alwayes requisite, but only in the beginning, when the humour is yet flowing, before the humour be settled, *antequam sit morbus factus*, before it be a disease made, and that is indeed in *futuro morbo*. Thirdly,

Gal. libr. 2. comment in 6. epidem. prop. 2. suum commentarij. Gal. method. therapeut. lib. 13. Fuch. Instituta lib. 2.

Gal. method. therapeut. lib. 13.

for that place where *Galen* doth bid that if the one leg haue an inflammation, we should let blood in the other: *Fuchsius* answereth, that *Galen* doth speake in that place of scarifying, that when one leg hath gotten an inflammation we must scarify the other, because scarifying doth stirre vp a griefe and payne, and *dolor attrahit*, griefe draweth the flux to the place scarified. But I maruaile that *Fuchsius* would not take the words as *Galen* hath set them downe. *Galen* speaketh plainly in that place not only of scarifying, but also of blood-letting, his words are these: *We must either open a wayne, or scarify the places not affected, as the hand being grieved to take the leg, or the one leg being pained, the other.*

*Gal. method.
therap. lib. 13.*

*Fernel. in me-
thodo medendi
lib. 2. cap. 5.
Fuchsius
institut. 2.*

*Hieron.
Mercurialis.
consil. 15.*

Fuchsius hauing objected the practise of some which first do diminish the plenitude by opening the saphena, or else the basilica of the contrary arme, and after do take away the reliques out of the same side where the griefe lyeth, doth cry out against this counsaile of the Arabian Phisitions with the same words that *Fernelius* also doth, *What an od counsaile is this to torment the patient so often, when you may with one act ease him of his payne?* But although these two were both of them famous and learned men, yet as good Phisitions as they doe prescribe the act of letting of blood to be often repeated either in one day or in dayes immediatly following, and yet are in very good hope that they doe not thereby torment the patient, but worke much more for his ease. *Mercurialis* giuing counsaile to one which in a cough did spit blood, sayth, *If the casting vp of blood do remayne, it would like me well that blood should often be let a little at*

once

once out of either arme, and therewithall rubbings and bindings applyed both to the anckles and to the knees.

Montanus who doth as much reuerence Auicenna, Montan. medic. sine uniuersalis parte secund. pag. 312. as Fuchsius and Fernelius do persecute him. For he sayth of him, Auicen was a most diuine man, a follower of Galen, and to be preferred before all that haue drawne their learning out of Galen: We haue Greeke translators (as he nameth there Aëcius, Paulus Aegineta, and Oribasius) but compare them with Auicen and they are nothing. And a little after he sayth, we must know that Auicen doth neuer speake any thing but what was before approued by antiquity. This Montanus as in other points he commendeth Auicenna, so in the seuerall states of pleurisy he alloweth his iudgement, that first blond be drawne from the saphena, then from the opposite wayne of the arme, and last of all from the same side: The first taketh away the multitude; the second maketh the diuersion, and the third doth empty the place affected. For the diuersion to the contrary part Montanus doth not only alleage the auctority of Auicenna and the Arabians, but of Archigenes and of Aretæus. Aretæus is brought in giuing his reason, If there should be multitude of blond and you should draw it from the side where the pleurisie is; either you must draw it plentifully to fainting and swooning, and so the patient should either dye, or get an impostume in the lungs, or else you must draw a little, and so choake and stifle the partly diseased, because (the plenitude being so great) much more will flow then shall be anoyded. Trincauell in the conclusion of that treatise which he made against Brissotus and Curtius, doth describe seuerall considerations which are to be had in the pleurisy: If there be a great fulnesse of blond, and a vehement force

Montanus medic. sine uniuersalis part. 3.

Trincau. in rudimento in consil. pag. 1043.

of the humour rushing on, and that we feare moreouer least the inflammation should ouermuch increase, then we do attempt both a reuulsion, and also an euacuation as farre off as we can, and by the contrary side: but if there be no great fulnesse of bloud, nor great force of the flowing of humours, nor great inflammation, then there is no neede to begin with parts farre off, because lesse reuulsion is requisite. So he expoundeth the meaning of Galen, that if the knee or the feete be taken with an inflammation, this must first be considered, whether there be such a fulnesse of body as doth also fill all the vpper parts, whereby there is feared an increase of the swelling, for then we must let bloud out of the vaynes of the vpper parts. But if the repletion be not so great, and that it be only in the inferior parts, then shall it be sufficient to let bloud out of the opposite foote. The inflammation may be so little and light, that it will be enough to open a wayne in the foote of the same side. If the testimonies which Fuchsius doth alleage out of Hippocrates and Galen be considered by these circumstances, then shall the two opinions be easily reconciled. He citeth Galens auctority, when the liuer hath begun to gather an inflammation, the bloud is both to be plucked back, and euacuated, by opening the inward wayne of the right arme, because it is direct vnto it, and a great way hath a society with the wayne which is called the hollow vaine. Galen doth there suppose the case to be first, a liuer beginning to be inflamed, and therefore yet a light inflammation: then consider principally whether the whole body haue neede of euacuation: then consider the strength of the patient, whether he be able to endure to euacuate once plentifully: and whether he do stand
strong

Fuchsius Instit.
libr. 2.

Galen method.
lib. 1. lib. 13.
cap. 11.

strong in power, then by Phlebotomy in the right arme reuell or take away the bloud that is caryed towards the liuer. This doth nothing ouerthrow the positions before set downe. *Fuchsius* euery where doth build mightely vpon that place of *Galen* in his booke of Phlebotomy: *In pleurifies the Phlebotomy which is vsed right vpon the side that is payned, doth often bring a most euident help: but that which is vsed vpon the opposite hand, doth bring either an obscure help, or else it is long ere it come.* No doubt *Galen* there doth meane such in whom there is *morbis iam factus*, the disease already setled, and of them you may see what *Galens* iudgement is, if you reade the conclusion of the sixt Chapter of this my treatise. For euer according to the seuerall scope and drift of the Physicion, there must be a seuerall manner of Phlebotomy. So in the inflammations of the wombe *Galen* teacheth, that in the beginning of them, when the humour is now in flowing, thou shalt diuert it, if thou open the vayne in the cubite. But if the humour be setled in the place, thou shalt deriue it by opening the vayne in the knees or in the anckles. True it is that he doth elswhere teach, that Phlebotomies in y^e arme do stay womens termes, as the letting bloud in the legs doth bring the termes downe, but (as *Galen* sheweth) in the beginning of the inflammations of the wombe it is not good that the termes should be prouoked, because they bring downe a humour to the place affected, especially in a body that is full of humours apt to flow. When we take vpon vs to cure an inflammation of the wombe, if there be no other intent nor drift but to ease the inflammation, then may we open some vayne in the leg: but if we take

Fuchf. Instit. lib. 2. & de morbis medicis lib. 2. cap. 8. & in Apologia aduersus Erachelium.

Gal. de ratione curandi per vene sectionē.

Gal. ad Glauconem therap. lib. 2.

Gal. lib. de ratione curandi per vene sectionem.

Gal. method. therap. lib. 13.

our scope and purpose from the flowing of the humours to the diseased part, and from the fulnesse of the whole body, then both to empty the pleritude, and to pluck back the humours that are sliding downe, we must (as *Galen* iudgeth) attempt it by the vaynes of the cubite. *Fuchsius* alleageth also the counsaile of *Hippocrates*, who aduiseeth in a pleurisy to open the inward vayne of the arme of the same side right vpon it. There is none that doth make any question but that in the pleurisy being a confirmed disease, and the humours hauing already flowed, euacuation is more fit then reuulsion, and both may be done by the neereest place: yea, such a manner of pleurisy it may be (as *Hippocrates* sheweth) that you can not fitly vse any Phlebotomy at all, his words are these, *There be some such as in whome in due time blood may be let. But in others it is not so fit as in them. The impediment is unto them which spit blood, time, the pleurisie, and choler.* *Fuchsius* in his Comment vpon that place sheweth, that there be three hinderances that do stay them that spit blood from being let blood, the first is time, being too hoat or too cold. The other two he ioyneth together, and thinketh that he meaneth that in the pleurisy proceeding of choler Phlebotomy is not conuenient. *Trincanell* being by occasion fallen into the consideration of that place of *Hippocrates*, doth shew that *Galen* commenting vpon that place, doth say, that the points concerning the time of the yeare and choler may well be admitted, but that the exception about the pleurisy doth seeme somewhat hard, because if any disease (the strength and age consenting) do require letting of blood, the pleurisie doth

Fuchf. Instit.
libr. 2.

Hippocr. 6.
epidem. part. 3.
Aph. 32.

Fuchf. comment.
in 6. epidem.

Trincanell
epist. 22. ad
Alexandrum
Trincellum &c.

doth most of all require it. But (he sayth) the knot is straight by Galen looted, to wit, that the words of Hippocrates are thus to be vnderstood, that alwayes he which spitteth blood must haue a vayne opened, vnlesse the sayd spitting of blood do come of a pleurisie, for then blood must not alwayes be let, but we must vse such liniments as do particularly respect the pleurisie. And afterward he sheweth y reason why it is not necessary that such as haue pleurisies, should alwayes be let blood, because by experience he knew one mēded of a pleurisy without letting of blood, his pleurisy being a light pleurisy, and voyd of all feare of plenitude. for the grieve was but small, and the blood was cast out by spitting: now those pleurisies are most gentle in which blood is spit out. κατ' ἰσιν in Hippocrates signifieth directly, Hippoc. epidem lib. 6. sect. 2. and as it were in a right line: a benumbing of the thigh right on the same side, is a signe of the stone in that kidney, so Galen doth expound it τὸ κατ' ἰσιν ἢ κατ' ἰσόντα, it signifieth according to rectitude. And in an other place he doth interpret it by the word ἰσὺασις, directnes. For a good signe blood must flowe directly as out of the right nostrill, if the liver or right side be affected: and out of the left nostrill, if the spleane or the parts thereabouts be greened. The contrary to κατ' ἰσιν, is τὸ ἀντιπαρὸν, as Hippocrates sayth, blood to flow out of the contrary side is an euill signe. Good it was for Bion being a splenetick man to bleede out of the left nostrill, and good for Herophon after the swelling of his spleene, to haue a kernell to rise κατ' ἰσιν of the same side. So the auctor of the booke de renum affectibus. By the benumbing of the thigh directly on the same side you shall know which rayne is affected: for if there be a benumbing in the right thigh,

The first booke of
 then is the stone in the right kidney; if in the left thigh,
 then in the left kidney. This *rectū* hath place in the
 crisis of diseases, but *Hippocrates* doth neuer ap-
 poynt Phlebotomies to be made of necessity al-
 wayes, *rectū*, directly vpon the same side. *Fernelius*
expoundeth this word *rectū*, to signifie the
 rightnes of the *fibra* or *villi*, as it were little thready
 or hairy strings, stretched out and running by the
 longitude of the vaynes. But *Andreas Laurentius*,
 and *Reusnerus* vpon *Willichium*, do at large confute
 that opinion. For if *Fernelius* do make those *recta*
fibra helps for euacuation or expulsion, then doth
 he not well, for the transuerse fibres and not the
 right do serue for expulsion: and if he makethem
 (as they are) helps of attraction, then must they
 draw equally as well on the one side as the other,
 because they runne out equally by the length of
 the vaynes on both sides. And the like answere
 they make to them which would haue the word to
 signifie the continuing and ioyning together of
 parts, as though all the vaynes of the right side
 were ioyned one to and in an other amongst
 themselues, and the vaynes of the left side ioyned
 among themselues, and did not rather participate
 and communicate one with an other. But seeing
 the trunke of the hollow vayne is one, the bran-
 ches thereof on both sides are equally ioyned to
 the liuer. The breaking out of blood out of the left
 nostrill doth empty as well the right side as the
 left, and (as *Reusnerus* sayth) he saw often by expe-
 rience that the diseases of the spleane were holpen
 sometimes by opening the liuer vayne, and some-
 times by blood gushing out of the right nostrill.
 And morcouer, as *Andreas Laurentius* sheweth,
 there

*Fernel. lib. 2.
 method. me-
 dendi.*

*Andreas Lau-
 rentius in A-
 natom.
 Reusnerus in
 Willichium
 de urinis.*

there is no meeting together betwixt the vaynes of the nostrils and the spleane, and yet the spleane being inflamed (as you haue heard) the blood that floweth out of the left nostrill doth flow *per se*, directly. And therefore that word of Hippocrates is not to be referred to the ioyning together of the vaynes one in an other, but to the rectitude of the whole parts of the body, *quia dextra dextris & sinistra sinistris sunt iunctura*, because the right lins to the right, and the left to the left are as it were of one tribe or kinred, and therefore like good neighbours do one labour to help an other. *Maiores vis in forti contentione obfessa partis quam in venarum situ*, There is a greater force in the strong contention and struing of the side that is besieged or set vpon, then is in the situation of the vaines. And a good criticall signe it is when that side that is impugned, can expell part of that wherewith it is ouercharged and oppressed. But when for any inflammation a wayne is to be opened, we haue many other things to be regarded besides the consideration of the side. We must marke well whether the whole body haue a fulnesse of the vaynes: whether the humour be flowing, or now already flowed and settled: whether it doth require euacuation or reuulsion or diuersion, and which of them more then other, and how these vses of Phlebotomy and the order thereof shall best be perfourmed, of all which points you haue seene already what the best Physicians of our age haue gathered out of the best Physicians in times past. Only I will adde one obseruation more out of *Montanus*, and so an end of this ouertedious controuersie. *Montanus* will haue in euery inflammation two things principally

Andreas Laurentius in anatom.

Mont. medici. vniuers. part. 3.

principally to be regarded, the first, *membrum mandans*, the member that doth send the humour, and the second, *membrum recipiens*, the member or part that doth receiue the humour. As he giueth his instance thus of the pleurisy. Let there be (saith he) one of a hoate liuer, who hath laboured in the sunne, hath dronken strong wine, hath inflamed his head, hath rested sodainly in a cold place, and then (as it commeth commonly to passe) by the cold the matter is exprest by the vaynes, and descending by the vaynes it doth flow downe either to the higher or lower ribs, and there followeth a paine. Here the member sending is the head, and the member receiuing, the ribs. *Let the place of the inflammation be in the right side, where must we then let blood?* He answereth, that seeing the humour is caryed downeward, if we should open the basilica of the same side we should draw the humour more downeward, and so increase the impostume and indanger the patient. *The fulnesse is in the head, but above the head there is nothing; if there were, we would euacuate from it: Therefore either a deriuation must be made to deriue the humour from the head, by opening the vaynes which are behinde the eares, or by bleeding at the nose (which were excellent) or by striking the wayne under the tongue, or else we must follow the expert Arabian Physicians, to let blood on the contrary side, that so by reuulsion the humour may be drawne according to the directnesse of the situation, from the right side to the left.* But if the pleurisy do come of an other cause that the flux be not from the head, but it be the liuer full of blond and choler sending humours vnto the ribs by the ascending wayne, because there is a plucking of the humours from the lower parts vnto

unto the higher, in what vayns then must we let bloud? He answereth, not from the basilica of the same right side, for then we shall draw the humour to the place: but (as Auicenna doth teach) either wee must draw it downe by opening the saphena of the same side, or else we must deale with the opposite side aboue. The rest of Montanus his opinion you haue seene before in this Chapter, where I haue compared his iudgement with the iudgement of others the most excellent Phisitions of our age.

CHAP. 8.

Whether letting of bloud may be practised in cold diseases, as palsies, cramps, apoplexies, and whether it may fitly be vsed in melancholick windes, colicks and dropsies.



Or the diseases mentioned in this and the two Chapters following, I purpose met to shew the censures of many Phisitions, but only for euery infirmitie to content my selfe with the auctority of

one or two of whom I make best reckoning, and so to hasten to those other points which more generally and vniuersally are to be considered in the whole practise of Phlebotomy. Although cramps, and palsies, conuulsions, and resolutions be cold diseases; yet *Aetius*, *Paulus Aretaeus*, and diuers do appoint to begin the cure with letting of bloud. *Galen* doth allow it, but not generally & alwayes. He only doth admit it in these cases, and with these conditions, First, when these cold diseases haue their beginning by the suppression of the termes

Trincavel
de ratione cu-
radi part. corp.
affectus lib. 3.
cap. 3.

Gal. libr. 1. ad
Glaucanem
cap. 14.

or hemorrhodes. Secondly, if they be with a feuer; but then it must be done moderately, & sparingly. Thirdly, if there be great plenty of blood either in the whole or in the head. For as *Galen* sheweth and also *Hippocrates*, by the ouermuch fulnesse of the waynes there are made oftentimes epilepsies and apoplexies. *Trallianus* beginneth his cure of a lethargie by letting of blood, if other circumstances do not prohibite. *Heurnius* in his Chapter of conuulsions doth like well of the iudgement of *Aretaeus*, to wit, that whether the cramp or conuulsion do come of coldnesse, or by a wound, or by untimely birth, the wayne in the arme is to be opened, especially if blood be the cause; or if it be such a crick, that the neck or body can bend no way; or if it be an inflammation, or a wound. *Montanus* alloweth Phlebotomy in epilepsies and apoplexies when they depend of blood, but he addeth this clause, *hoc autem faciendum debitis temporibus precipue vere*, this must be done in due time, especially in the spring time. For melancholick winds caused by obstructions of the liuer or spleane, *Mercurialis* giuing aduise in that case to a Noble man of Germany, sayth, first, you must thinke of letting blood, not that the abundance of it doth plainly shew any such matter, but because other noble helps can hardly be safely administred, unlesse letting of blood do go before. And in an other place, writing counsaile for a woman which had five yeares suffered the obstruction of the spleene, and was now come to a schirrus, or hard swelling, he sayth, *I thinke it were excellent well, that she should be let blood, first out of the common wayne, then out of the lienaris, and last of all out of the wayne of the left foote, so that at thrice there be in all taken a pound of blood.* *Trincanel* his iudge-

Hippocr. 4. de ratione victus in morbis acutis.

Trallian. lib. 1. cap. 14.

Heurnius de morbis capitis cap. 25.

Montanus medicinae universalis part. 3.

Mercurial. consil. 66.

Mercurial. consil. 104.

iudgement is, that we must abstayne from blood-letting, when the melancholick humour is dispersed into the vaynes of the hypochondria, and the whole body, and that then we must rather purge or procure the hemorrhodes if the party haue had them vsually before. For the Colick, *Anicen* doth forbid blood-letting to be vsed in it. *Montanus* writing vpon the sixth Canon of *Anicen*, giueth the reason of it, because the colick commeth of some cold and thick matter, and phlebotomy both doth make more cold, and also hath no power to auoid the thick and grosse causes of the griefe. Yet he addeth this, *But if the colick do come by the inflammation of the colum, one of the lowest guts, by meanes of blood or choler flowing to the place, in this case if you let not blood the patient will dye.*

For the Dropsie *Trincanel* teacheth, that if it come by the suppression of some vsuall flux, as the termes, the hemorrhodes, and bleedings at nose, whereby (by the superfluous abundance of blood) the naturall heate of the liuer beginneth to be quenched, then the first thing in the cure must be phlebotomy. But if it come of fleame, then omitting blood-letting, we must only seeke to purge the fleame. He maketh there an obiection what we must do if the termes be not suppressed, and yet the vrine do appeare high coloured, whether may we then let blood or no, seeing that *Anicen* sayth, that if the vrine do appeare red and thick, a vayne must presently be opened? *Trincanel* answereth, that yet we must not let blood, because in this disease that rule of *Anicen* doth not take place. For the red tincture of the vrine doth not come by abundance of blood, but first, *because little vrine is made*

Trincanel consil. 15. pro melancholia hypochondriaca.

Montan. medicine vniuersalis part. 3.

Trincanel de ratione curadæ part. corp. aff. lib. 8. cap. 10.

Auicenna prima quart.

*made in these diseases, therefore it is the higher coloured: for the thinne iuices of choler and bloud, from the which doth come the colour of the vrine, being mingled with a little moyſture, do giue the greater tincture, and make it higher coloured. And a second cause of the high colour in the vrine, he sayth, may be the debility of the raynes, which by reason of their weaknesse being not able perfectly to separate the bloud from the excrement, do let some little portion of bloud passe with the vrine, whereby the vrine is dyed red. A third reason doth Fernelius giue why the colour of the vrine may often deceiue, because when the choler is cast out by the liuer, it doth not only colour the thinne part of bloud, but maketh the vrine also to locke as though the bloud were inflamed, as he giueth an instance by Iaundises and Dropſies, and concludeth, They do therefore offend, which by the vrine being of citrine colour, and thicke, do iudge straight that bloud is to be let. For such an vrine doth not come by the abundance or by the kindling of bloud, but by the powring out of choler out of the liuer. I will not speake heere of the razing of the ſtone in the raynes, and some other occasions that may be, that a little bloud iſſuing, may alter mightely the colour of vrine. This which hath already bin ſpoken, may put vs ſufficiētly in mind in the matter of bloud-letting, not ſo much to be led by the colour of the vrine, as by other euident tokens which ſhall be hereafter more at large declared. But when the vrine doth concurre with other ſignes, then *vis unita munita. Et quæ non proſunt ſingula multa iuuant.**

*Fernelius in
methodo gene-
rali de curan-
dis febris.*

CHAP. 9.

Whether in rheumes and distillations, and also whether in the Goute, and the disease called Morbus Gallicus, any benefit may ensue by letting of blood.

Montanus doth make this to be one of the principall and generall vses of Phlebotomy, then to take place, *When any hath some notable heate of some member, by means of which heate it doth easily receiue excrements, and so fall into a disease; as if there be a heate of the raynes, there is made the stone, if of the liuer, the iauundise; and if of the brest the salt rheume. Razes doth commend in a rheume letting of blood. But Heurnius doth restrayne it with certaine limits. He will not haue it to be vsed vnlesse there do appeare the signes of fulnesse of blood, as the rednesse of the face and eyes, and extending of the vaynes, and vnlesse the body & head appeare to be hote, and the rheume salt, with a matter not very farre differing from blood; and further, vnlesse there be some danger of the instruments of breathing, the lungs and the sides; then he admitteth blood-letting, but as he saith, sparingly, and not too much: but in a cold rheume the sweet mitigation of blood is not to be taken away.* In the Goute Phlebotomy is not to be vsed, vnlesse great fulnesse do of necessitie vrge thereunto. There may this reason be giuen of it, because that thinne distillation, which floweth from the braine into the ioynts, and being there thickned and settled doth cause the gout, doth not fall downe by any wayne, as *Fernelius* sheweth in his answer to the

Montanus medicinz vniuersalis part. 3.

Heurnius de morbis capit. pag. 335.

Fernel. co. 1. pt. 12.

Aliter
Montanus
confl. 132.

48. The first booke of
the Phisition *Bucherius*, but doth distill from the
brayne to the neck & shoulders, and from thence
to the feet *partes consecuta subcutaneas*, hauing got-
ten for passage the parts vnder the skinne, and be-
cause it is thinne, doth flow vn-sensibly. *Bucherius*
thought, that becaule in the blood that he saw
drawne out of vaynes there appeared sometimes
phlegmatick matter to flow out with the blood,
therefore that steame slipping out of the vaynes
might be a cause of the goute. But *Fernelius* doth
confute him, and sheweth that that which swim-
meth so whitish in the basen is a kind of phlegma-
tick blood, such as doth abound in the discae cal-
led *Leucophlegmatia*, and that it is so farre from
sliding out of the vaynes into the ioynts, that it
can not be drawne out of the vaynes by strong
medicines. For that steame which is fetched out of
the body by purgings and vomits, doth not come
from the vaynes, but it is wholly either from the
brayne, or from the stomack, or from the bowels. He
addeth, I thinke this to be one of the greatest errors
of the common sort of people, that in all diseases they
place the faults of the humours nowhere else but in the
vaynes, and when the question is of humours, they vn-
derstand nothing of those which do abound in other pla-
ces, but only of those which are mingled with the blood
in the vaynes. Although the caule and nourishmēt
of the gout doth not flow from the vaynes, yet if
the party haue a full body, it will be very dange-
rous for him to omit letting of blood, for that at-
tenuating and resolving diet (which by meanes of
his discae he must vse) will make his plenitude the
more perillous, vnlesse hauing first purged his bo-
dy, he do also cause some wayne to be opened. The
like

like reason doth *Fernelius* giue in his curing of *morbis Gallicis*, after that he hath aduised the body to be twise or thrice purged, he sayth that also he must be let blood as his fulnesse shall require, and strength permit, for so not only the inward parts and whole body shall be cooled, but also the dangers of plenitude, which may be stirred up by the use of attenuating and resolving things, shall be thereby auoyded. What wayne must be chosen in the gout when blood-letting is thus found requisite, *Galen* doth declare towards the end of his booke of Phlebotomy. In the gout we must open the vaine in the cubite, but in the falling sickness, and in that swimming in the head which maketh all things seeme to go round, we must do it rather in the legs. But how doth this agree with that place which I haue alleaged before out of *Galen* in my seuenth Chapter: If one leg haue an inflammation, scarify and let blood in the other. Humours do seeme with greater difficulty to ascend then descend, and (the hollow wayne in the lower part of the body deuinding his branches equally to both the legges) it should seeme that the legge is not only the fittest place (according to some) *per vices*, to diuert or reuell, but also the meetest place to make euacuation. *Fuchsius* sayth, that *Galen* doth commaund in the gout to let blood in the arme for two causes, first, because both the legs in that disease are afflicted, though not both at once, but *per vices*, one after an other: and secondly, because in the gout the blood doth only offend in plenty, and is not so putrified and vicious, as it is in a boate and red inflammation. But seeing the chiefe intent of Phlebotomy in the gout is to euacuate the fulnesse of the whole body, it may therefore seeme especially

Fernelius de lue venerea.
pag. 108.

Gal. libro de ratione curandi per venesectionem.

Gal. methodi therap. lib. 13.

Fuchsi. insit. lib. 2. sect. 3. cap. 5.

cially for that cause most fit to open a vayne in the cubite. As for the matter of the disease, it is rather auoyded by a good fit diet, dry, and moderately warime, and the vse sometimes of things that do extenuate and resolute, then by seeking to draw out either the cause, or the nourishment thereof by the vse of Phlebotomy.

CHAP. 10.

Whether letting of blood be fit for such as haue hoat liuers and cold stomacks, as also for such as haue itches and scabs, and such other faults of the skinne. Further, whether it be good for the disease called of the seafaring men the scuruy, and for the cachexia or bad habit of body: and finally, what and how many are the drifts and scopes of letting of blood.

Montanius
consil. 132.



Montanius in his conference had with a Doctor called Sonzinius, about a man which had bin lately a souldier, who was iudged by his busy fierce practises, by the rednesse of his face, and by the fulnesse of the vaynes about the eyes and other places, to haue a hoat brayne, a hoat heart, and a hoat liuer, and by the red sand and heate of vrine appeared also to haue hoat raines: and yet hauing in many parts hoat had y^e stomack cold, by meanes of the heate of the liuer, wasting and consuming the fatnesse of the cawle or sew, which should conserue and keepe in the due naturall heate of the bowels: and who also by these occasions for want of good concoction, had many rheumes & distillations, making his body very soluble, by meanes of

of their slippery descending, which otherwise in regard of so many hoat parts must needs haue bin very costlie : he saith, *Here I would commend principally blood-letting to take away the heate of the liuer and of the inferiour parts, the body being first gently purged by cassia.* Yet if the infirmitie haue continued long, and brought the body to a great weakness, *Trincanet* will then in no case admit Phlebotomy. For giuing his aduise to one which had a hoat and a dry liuer, but a moit stomack, and who was troubled with plentiful thinne spitting, with paines in the ioynts and lassitude of the whole body, he sayth, *In this body so spent with leanesse and lingring sicknesse, and moreover so full of crudities, I dare not so much as once make mention of letting of blood.* As for the itch, which is thought by *Melinus* a learned Phisition to be the same which *Galen* calleth after *Hippocrates*, *καὶ τοὶ ἀντιστοιχοῦντες*, *spontanea lassitudines*. The same Phisition *Melinus* being himselfe fallen into it, when the other Phisitions about him, and a Chirurgian (who was procured to come by the French kings Embassadour) did all earnestly perswade him to be let blood, and shewed what good they had done in the like cases by blood-letting : *Melinus* did refuse to yeeld vnto it, cleauing stedfastly to the iudgement of *Galen*, who in this impediment of the itch and scabs will haue either no blood to be taken at all, or else very little, and that rather to pluck back then to euacuate. The common opinion of Chirurgians was, that the more corrupt the blood was, the greater quantitie he might spare of it. But he relyed wholly vpon that auctority of *Galen*, *Of these kinds and degrees of sanguification, some little differ from blood,*

*Trincanet-
consil. 4.*

*Gal. de sanita-
te tuenda lib. 4.*

Ibid,

*The first booke of
some more, and some most of all. In those which on ei-
ther side differ but a little from bloud, you may boldly
use Phlebotomy. In them which differ more, do it more
warily, but in them which are most departed from bloud
use it not at all. If the good bloud be little, and the o-
ther humour much, then abstayne from letting bloud:
but if the humour be little and the bloud plentiful, then
boldly use Phlebotomy. Melinus though he knew
these conclusions of Galen, yet because the case
was his owne, and did so neerely concerne him-
selfe, he sent a letter to Fernelius, laying open the
whole case vnto him, and desiring him that he
would declare his iudgement concerning this mat-
ter. Fernelius subscribeth to the opinion of Meli-
nus, and sheweth, that in a pure plenitude of bloud
the fulnesse may safely be diminished by Phlebo-
tomy, but in an impure plenitude that hath a ca-
cochymia, or vicious humour mingled with it, the
fulnesse must be a little eased by opening a wayne
sparingly, and by distances of time, and the rest of
the impurity must be taken away by purging. But
then doth bloudletting most harme, when the ill humour
is bred (as it is most commonly) by the fault of the liuer
and stomack. For the bloud (though impure) being ta-
ken away, a much more impure doth succcede. He gi-
ueth instance of the iaundise, the cachexia, and
that kind of dropsie which maketh the flesh spun-
gie, and the whole body to swell. For the iaundise
in a full body, it may sometimes be used either
when it commeth by the ouermuch heate of the
liuer according to Montanus, or when it commeth
by the obstruction of the gall according to Fuch-
sius. The cachexia, or bad habit of body is percei-
ued as Trincanel sheweth by many outward signes,
which*

Ibid.

*Fernel.
consil. 46.*

*Montan. medi-
cine universa.
lib. 1.
Fuchsius. de me-
dicina morbis
lib. 3. cap. 30.*

which are commonly these: the swelling of the face especially under the eyes, the countenance and whole body discoloured, a swelling in the belly, such moist and waterish puffings up of the legges and feete, that if you presse in your finger it will leaue a dent or hole, the mouth alwayes full of spittle, vomitings up of some watery matter, and nippings about the heart. The scuruy seeing (as *Wierus* declareth) it commeth of the obstruction of the spleene, whereby the thinner part of melancholy is caryed vppward, and with a sharp corrosion doth infect the gummies, and the grosser part thereof falling downe doth infect and spot the legs. I shall neede to say no more of it then I haue set downe already in the eight Chapter concerning the obstructions of the spleene, and experience hath taught vs sufficiently, that much ease may come vnto it by the right and aduised vse of Phlebotomy. *Baldwinus Russaus* declareth what wayne (in his iudgement) is most fit to be opened in the scuruy. If the humour be not fallen downe, he counsayleth bloud to be let out of the middle wayne of the left arme: but if the melancholick iuice hath already flowed downe to the hips, then open the wayne of the knee, or of the ankle. I leaue it to the reader to examine and measure this aduise of his, as well by those principles and grounds which I haue discussed at large in the seauenth Chapter of this present booke, as also by those circumstances and other obseruations, which I shal haue occasion to intreate of hereafter in the former fise Chapters of the booke next following.

Thus you haue in this first booke the first scope and intention of bloud-letting briefly laid open, to wit, in what infirmities the greatnesse of the dis-

Trincan. de ratione curandi part. corp. affect. lib. II. cap. 8.

Iohannes Wierus tract. de scorbuto.

Baldwin Russ. in commentariolo de magnis lienibus Hipp.

Hippocr. 4. de
ratione vitt.
acut. 19.

Galen. de rati-
one curandi
per vene sect.
cap. 9.

1. Epid. sect. 3.
cap. 3.

6. Epid. 1. 29.

Gal. method.
medendi lib. 9.
cap. ult.

Galen. de rati-
one curandi
per vene secti-
onem cap. 6.

1
2
3
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ease doth require a wayne to be opened. For (as first Hippocrates, and after him Galen doth declare) there are three especiall points to be marked in the drift & purpose of letting of blood. The first is called by them *the greatnesse of the disease*, whether it be present or to come, whether acute, or of long continuance, if it be great, dangerous, strong, or grievous. The second is a *flourishing age*, neither too young, nor too old, for the vndergoing of that remedy. The third is *the strength of the powers of the patient*. True it is that Galen doth sometimes name diuers other scopes and intents in the matter of Phlebotomy. In his method of healing, he reckoneth eight, There are in this opening of a wayne many scopes and obseruations, 1. The first, *nature and temperature of the party*, 2. *his manner and custome*, 3. *his age*, 4. *the place of abode*, 5. *the time of the yeare*, 6. *the constitution or the state of the heauens*, 7. *the affection of the disease which we haue in cure*, 8. *the strength of the patient*. Sometimes he nameth tenne besides the age, as in his treatise of Phlebotomy: If in respect of age they be neither children nor old folks, then consider of Phlebotomy, hauing a regard especially to these first scopes and drifts, 1. *the quantity and quality of the plenitude*, 2. *the strength or weaknesse of the powers*, 3. *the naturall habite of the whole body*, 4. *and the time of the yeare*, 5. *and the region or place of habitation*, 6. *the former life, whether the party so affected haue vsed a fulnesse of meates and drinks, and especially such as are of great nourishment*, 7. *custome or discontinuance*, 8. *what motions and exercises he hath vsed*, 9. *whether he haue had heretofore any euacuations, which are now withholden against custome*, 10. *and moreouer besides all these, whether*

the

the party be leane or grosse. All these varieties doth Galen bring into a briefer division, and reduce them into two seuerall heads: first, such scopes as declare whether blood be to be let or no: and secondly, such as shew what quantity of blood is to be taken. To the first, do appertayne the three generall scopes of Hippocrates, and to the second sort do belong also all the rest. For so be the words of

Galen: Therefore by the disease, and the age, and the powers, we know that blood is to be let, but the quantity of the euacuation is to be gathered not only by these, but by all the other intentions.

Galen.
ibid.





The second booke of Harwards Phle-
botomy, concerning the rules and circum-
stances which are to be obserued, when
for the preventing or curing of a
disease any vayne is to be
opened.

The first Chapter.

Whether the party that is to be let blood haue that
distented plenitude, which is called of Phisitions
corpus plethoricum, and how the seuerall kindes
of plenitudes may be knowne.



He principall thing (whereof confide-
ration is most to be had in letting of
blood) is named of most writers to be
magnitudo morbi, the greatnesse of the
disease, of which I haue no purpose now to write,
seeing it is in a manner the whole matter subiect
of the booke already ended. When it is found by
the nature of the disease that a vayne is to be ope-
ned, then we are next to examine the constitution
of the party from whom the blood is to be taken,
and especially by all signes and tokens exactly to
waigh whether he haue *corpus vere plethoricum*, a
body ouercharged with the fulnesse of the vaynes,
or rather with excesse of humours ouer the whole
body, as Galen doth define it, *Plenitude is an abun-*
dance,

Gal. lib. 2. de
composit. medi-
cament. secun-
dam loca.

dance, or an excesse of humours thoroughout all the body. There are two sorts of plenitude, the one is called *ad vasa*, in respect of the vessels conteyning, and the other *ad vires*, in respect of the power, not to be able to beare those humours that are. The plenitude *quoad vasa*, is made by Galen to be of two sorts, the first he calleth simply a plenitude, which he defineth to be the foure humours being proportionably increased. The second kinde he calleth a plenitude, with an addition, or a plenitude compound, when some other humour besides blood doth abound more then it ought. These I will not stand ypon, because I haue already deciphered them in the first Chapter of the first booke. There remayneth only heere to set downe the marks and euident signes, whereby they may best be knowne when the patient commeth in presence. If there be a fulnesse of blood in respect of the vaynes and other vessels, then the colour both of the face and the whole body will be much enclined to red, after any strong motion the vaynes will swell, and the arteryes beate, a sweate will easily breake out, a wearinesse doth oppresse the body and lims, which are loth to moue by reason of their owne waight, the hand can hardly be clutched together, the drawing breath will be very thick after exercises. In the fulnesse in respect of ouercharging the powers and strength these things do happen, the motions of the body & lims are somewhat slower, the sleepe is heauie but troublesome, the partie doth often dreame that he is ouer-charged with some burthen, and that he can not stirre himselfe, and he feeleth likewise a wearinesse and heauines as is in the former, but it is without those full and distended

apud Hippoc.

apud Galienum. Gal. ibidem in initio.

Brighthus in therapeut.

Plethora ad vasa.

Plethora ad Vires.

Other signes
of blood a-
bounding.

dilatted vaynes. If the blood do particularly ex-
ceede in these plenitudes, then some do adde more-
ouer these signes, the pulse thick, full and soft, the
laughters great, the head enclined to aches, the bo-
dy somewhat costiuē, the spittle sweete, the vrine
red and thick, the dreames either of colours red,
or of things amorous, and in women their termes
vsually in the first quarter of the moone. When
any other humour doth abound, it is called a caco-

Signes of cho-
ler abounding.

chymy. *A caco-chymy is an abounding of any other
humour but blood.* If choler do abound, the colour
of the face and eyes and whole body will be pale,
or yellow, or of a citrine or tawny colour, the par-
ty will be watchfull, and of little sleepe, griefes will
be most on the right side, vomitings will be often,
the thirst much, and the appetite to meate faint,
the pulse will be slender, hard, and swift, in the
mouth sometimes a bitternesse, the vrine of a firy
colour, and with little ground or sediment, the
dreames will be much of matters of fire, and the
termes vnto women happen most in the second
quarter of the moone. If fleame do abound, the
colour of the face and body will be white, the body
it selfe waighy, fat, soft, and cold, the tast weake,
the griefes most about the ribs, stomack, or the
hinder part of the head, the pulse slow, soft, and
weake, the vrine pale or white, sometimes thinne,
and sometimes thick, with much grounds or sedi-
ment, the sleepe sound and much, the dreames ei-
ther of drowning, or watery matters, and the
termes vnto women vsually in the old of the
moone. If melancholy do exceede, the colour of
the face and whole body will be browne, dusky,
and blackish, sometimes equally, and sometimes

Signes of
fleame aboun-
ding.

Signes of
melancholy
abounding.

some-

somewhat bespotted, feares will come needelesly, and sorowes without cause, the pulse will be hard, the vrine will be thinne and white, and sometimes when melancholy doth auoyd it will be thick and black, or black and blew, or somewhat greenish, the sleepe troublesome, and full of fearefull dreames, and the termes to women commonly after the full. I could here rehearse many other signes (whereof *Leninus Lemnius* doth make mention) drawne from the fashions, studyes, and manner of life of the party, to make tryall of euery one by the manner of his gate, by the deuises of his braine, and by the performance of his actions, but then I should (perhaps) make some to thinke too well and some too ill of themselves (although in deede hardly will any thinke too ill) and I should increase this latter booke into a greater quantity then is now my purpose to performe. Briefely, I conclude this first poynt concerning the plenitudes, with the censure and iudgement of *Galen*, who when he hath brought them all to two generall heads, *When the humours are equally increased they call it in Greeke plethos, or plethora, but when the body is full of yellow or black choler, or of steame, or of thinne whayish moistures, then they call it not plethora, but cacochymia*: He doth presently after shew how they must be holpen, and amongst the remedies of plethora he maketh letting bloud the principall. *Plethora is cured by letting of bloud*, but for cacochymia, he maketh the chiefeft remedy to be purging. *But cacochymia is cured by that purging which is proper and peculiar to euery senerall abounding humour*. If this cacochymia be also with a discontented fulnesse, then must also Phlebotomy be

Leninus Lemnius in libris duobus de complexionibus.

Gal. method. therap. lib. 13.

yled,

Fernel.
consil. 46.

vsed, but sparingly only, so much as may ease the plenitude, and rather (as *Fernelius* doth aduise) *ex interuallis detrahendo quàm vniuersim & affatim vacuando*; *sublata plenitudine precipiti & periculosa, reliqua impuritas & cacochymia purgatione eximenda est*. But of this already in the last Chapter of the former booke.

CHAP. 2.

Of the consideration of the temperature of the party, what it is by manner of dyet, or by exercises, or by place of abode, or by custome and habit, or by constitution of body.

Fuchsius inslit.
sect. 5. cap. 4.

Gal. libr. de
curandi ratio-
ne per vene
sectionem.

IT is not without good cause that *Fuchsius* doth require in Phlebotomy, that an especiall regard be had in it of the dyet which the party hath vsed, whose vayne is to be opened, for if he haue vsed much surfeiting, and so gotten an abundance of raw humours, he is then not to be let bloud, as he seeketh to prooue out of those words of *Galen*: *To intemperate men, wine-bibbers, and gluttonous surfettors, thou shalt bring small profit either by purging, or letting bloud*. Although the purpose of *Galen* indeede is not in that place to deny purging and letting of bloud to them, which by surfeiting are already filled with raw humours (as *Fuchsius* doth seeme to apply it) but to shew that it is a needlesse enterprise, and a very lost labour to apply vnto intemperate men these soueraigne remedies, seeing that they haue gotten such a custome and habite of riotousnesse, that they will presently fill themselves againe with all noysome humours; for so doth *Galen* there giue
his

his reason. For they which do vse an intemperate dyer, do quickly gather an aboundance of raw humours, and therefore we must not so much as endenour to heale them. Besides excesse and surfeiting, a due regard must be had whether the party that is to be let blood haue vsed (though temperatly) such drinke, and especially wines, as are apt to ingender much blood: for in houses of great personages, and in cities where wine is much in vse, there is farre greater necessity of letting blood, then in those countrey villages where their accustomed drinks are of lesser and weaker nourishment. And especially seeing the former liuing in ease and without any great exercises, do soone gather store of superfluous humours, they may therefore admit a more liberall bleeding, but the later continually labouring & toiling, do leaue in their bodies y lesse store of superfluities, and therefore may the lesse endure any plentifull Phlebotomy. And yet as well in cities as in countries the temperature of the place of abode may also inake some difference. They which haue hoat and dry habitations in sandy places, haue much of their naturall heate and humours spent, discussed and scattered, and therefore must bleede lesse then they which dwell in more cold and moyst places, where the strength of the naturall heate is not so apt to be dispersed, provided alwayes, that the place be not by reason of hard weather so extreame cold, that the blood should be as it were cōgealed, for then to let blood would be very perillous, as likewise it would be inconuenient when the constitution of the party is over-hoat and dry, to vse any great euacuation by Phlebotomy. Galen sayth, *As many as are by nature*

*Fuchf. Instit.
libr. 2. sect. 5.
cap. 4.*

*Galen. ad
Glaucōnem*

therapeutic.
lib.1.cap.13.

Hippocr.
2.Aph.50.

Montanus me-
dicine vniuer-
salis part.3.

Gal.therap.
meth.lib.9.

nature hot and dry, they all do easily receiue harme by liberall euacuations. And in that place Galen in the words immediatly following doth shew that custome also is of great force, as to all other things, so likewise to shew what persons may best admit Phlebotomy. For they which haue bin often accustomed to it, do incurre more danger in omitting of it, then they which neuer were acquainted with it. Hippocrates doth giue it out as a general axiome, Things accustomed though they be bad, yet do they molest vs lesse then those wherewithall we were neuer acquainted. Auicenna in his sixteenth Canon of blood-letting (as Montanus hath deuided them) doth declare three sundrie dispositions of mans stomach, which cannot permit the opening of a vayne: first, if there be a great and quick sensibilitie of the mouth of the stomach: secondly, if it haue a faint debilitie: and thirdly, if there be a flux of choler flowing vnto it. For the first, Montanus sayth, of all the lims the mouth of the stomach is made of quickest feeling, and sharpest sensibilitie, that thereby there might be an apprehension of hunger: and being for that cause very sinowy, it hath great affinity and consent with the brayne and the heart, whereby if there be a flux of some sharpe humour vnto it, the brayne and the heart doe straight suffer with it, and thereupon doth come a fainting and swooning. By the debilitie of the stomach he meaneth not that weakenesse which doth come by distemperature, but that which cometh by the loosenesse of the stomach, when the stomach can not bind in it selfe, and gather it selfe together vpon the meate. That loosenesse cometh of the moysture of it, and they which haue this imbecillitie

becillitie vpon euery light occasion, they swoone and faint away, and are therefore vnfit to be let blood. By the flowing of the choler to the mouth of the stomack, he sheweth what indeed doth most offend the sensibilitie of that place, and bring not only swooning, but also other great dangers. For as *Galen* writeth, *The mouth of the stomack by the quicknesse of the sense thereof doth bring both many other symptomes, and also swoonings.* From the liuer and the gall there are two passages one greater, the other lesse. The greater goeth downe to the gut, which is called *ieiunum*, and the lesse goeth to the bottome of the stomack. Some haue but one of these passages, by meanes whereof many times cholerick men, because they haue only that passage which goeth to *intestinum ieiunum*, and want that passage that should go to the bottome of the stomack, do neuer vomit choler. And on the other side, others that are phlegmatick do vomit often choler, because they haue that passage which goeth to the bottome of the stomack, but want the other which should go to the gut called *ieiunum*. *Montanus* sayth of these, that *infelicitatem habent à generatione*, they are vnhappy by the manner of their procreation and birth. Those which haue the passage wholly to the stomack, whereby choler is carryed to the mouth of it, are knowne (as *Anicen* sayth) by this, that they haue the mouth often bitter, and do vomit choler vpon euery small cause, such haue *porum felleum infelicitèr compositum*, the passage of the gall vnluckily made. *Anicen* sheweth, that if there be a necessity of letting blood in any that hath any of these impediments, the party hath neede to be prepared and strengthened before

*Galen. lib. 12.
method. therapeutices.*

*Montan. in
Canonem 17.
Anicenne.*

fore any vayne be opened. The manner how it must be done shall appeare in the Chapter following.

CHAP. 3.

Whether the body haue neede to be prepared before letting of blood.

Montan. medicina vniuersalis part. 3.

IF the party (from whome blood must needes be taken) be found to haue a great sensibilitie of the mouth of the stomach (which is knowne by this, that if you offer any sharp, sower, or biting thing, such as is the iuice of limons or pepper, he is straight offended) then before he be let blood, that there may be no flux of choler to the mouth of the stomach, you must giue him a few morsels of bread steeped in some astringent thing, as in the iuice of quinces, and of ripe peares. If there be a relaxation of the stomach by ouermuch humiditie (which is knowne by this, that though the body be emptie, yet there is no perfect right feeling of hunger) then you must giue also of the iuice of quinces: but if there be a coldnesse with the humiditie, then you must adde vnto it some sugar, with a little cinnamon, or some spice conuenient. And if choler do flow vnto the stomach by the vnluckinesse of the passages of the gall, then giue warme water, and *syrupus acetosus*, and prouoke a vomit, and when the choler is by vomit cast out, strengthen the stomach with a morsell of bread, and so let the vayne be opened. An other occasion may be of a needefull preparation, to wit, if the party that is to be let blood haue his blood ouer-grosse and thick; for then for two or three dayes before
letting

letting blood, he must vse extenuating things, as a decoction of hyſop, nep, wild marierom, and pennyriall, in which is boyled a little white wine and hony. *Fuchſius* addeth further, that bathes may be alſo ſometimes vied, eſpecially when blood muſt be let in ſome part farre from the luer, as in the hands, or in the feete. *But in a full body and in ſuſpicion of an inflammation, the uſe of bathings muſt be auoyded as very pernicious.* *Trincauel* commenting vpon *Galen*, after that he hath ſhewed that blood-letting doth not require ſo great a concoction of humours as other euacuations do, becauſe blood hath no neede to be prepared for the bringing forth, vnleſſe when it is too thick we do by bathings or ſome other meanes make it more thin; that it may flow more readily, yet ſometimes not only concoction, but alſo euacuation by purging muſt go before Phlebotomy, not in reſpect of the blood, but in reſpect of ſome other danger, as he giueth an inſtance of quotidian agues, in which there is much fleame gathered in the ſtomack, and many crudities in the fiſt vaynes, vnleſſe this fleame be firſt digeſted, and drawne out of the ſtomack, it may be (as he proueth out of *Galen*) that whē the vaynes are emptyed by Phlebotomy, they will draw that raw fleame, and diſperſing it by other vaynes into all the principall parts, will make greater obſtructions then before: he concludeth, therefore let firſt the fleame be either concocted by abſtinence, or brought out by a vomit, or auoyded by purging, and then mayſt thou ſafely open a wayne. *Galen* ſayth, In a faint body wherein is little good blond and many raw humours, Phlebotomies do auoyd the good, and as for the euill, which is conteyned eſpecially in the

*Fuch. Inſtitut.
lib. 2. ſect. 5.
Fernel. lib. 2.
method. me-
dendi. cap. 14.*

*Trincauel. in
explanatione
lib. 1.
Galenī ad
Glaucōnem
de arte cura-
tiua. cap. 12.*

*Galen de ſanit.
tuenda. lib. 1.*

*Galen lib. 4.
de ſanitate
tuenda.*

vaynes about the liuer, and mid-bowels, they do pluck
 them into all the body. *Montanus* writing vpon the
 eight Canon of *Auicenna*, doth discusse this matter
 at large: Let vs suppose (sayth he) that there be a
 raw humour without the mesaraick vaynes, yet
Auicenna wil haue vs then to absteyne from bloud-
 letting, for the raw humour is drawne into the inward
 vaynes, and the obstruction is made greater, and the
 feuer increased: we therefore giue first things that may
 concoct, and not such things as may distribute into the
 vaynes. He alleageth the aduise of *Galen*, who pre-
 scribeth, that if there be any raw humours in the
 mesaraick vaynes, we should absteyne from *diospo-
 liticum diacalaminthum*, and from bathes, because
 they do distribute into the vaynes, and that we
 let only sleepe suffice, and the vse of *diatrion pipe-
 reon*, because that doth concoct humours, and not
 distribute them into the vaynes. When the crudi-
 ties being concocted we come to letting bloud,
 then *Auicen* doth there counsaile vs, that if the
 bloud be little and naught, we must take but an
 ounce or two, and retreshing the patient with
 some meate of the best nourishment, then to take
 the like againe: which *Montanus* doth thinke to
 be y^e same *imixturis*, or tempering of humours, which
Galen doth so much require. This *imixturis tempera-
 tio humorum*, is nothing else but by little and little
 to take away bad humours, and to adde and restore good humours. *Trincauel* giuing
 his aduise about a woman who had the terines sup-
 pressed, although he perceiued her to haue a rea-
 sonable full body, and to be of the fittest age to let
 bloud in (which he accompteth to be about the
 fortieth yeare) yet because there was in her body
 abundance

*Gal. lib. 4.
 de sanitate
 tuenda.*

*Auicen.
 can. 8.*

*Gal. lib. 9.
 methad. me-
 dendi.*

*Trincauel
 consil. 77.*

abundance of raw, grosse, and tough humours, he did appoynt her to absteyne from letting blood. If you take away blood, you take away the bridle of raw matters, and make them more raw and more grosse. He buildeth his counsayle vpon that precept of Anicenna, Take heed that thou bring not thy patient to either of these two extremities, either to haue cold humours made raw, or to haue the hoate to be brought to boyle and bubble. Montanus discoursing vpon Anicenna his canons, doth require that not only in raw phlegmatick matters, but also in abundance of choler, some auoyding of it either by vomit or purging, should go before Phlebotomy, least the bridle, to wit, blood being gone, the fiercenesse of choler should more increase. In those, in whome by reason of the tempering of the humour blood must be let a little at once and often, Galen doth wish as well the reiterating of the purging, as of the Phlebotomy. As many as shall seeme to haue little blood, when you haue brought them to some probable humour, you may let them blood, and then refresh them, and againe you may purge them, and afterward refresh them, and againe you may let them blood, especially them whose whole blood is like vicious and thick slime. But he addeth presently, but in them which are strong and full of blood, you may begin in them with Phlebotomy. So sayth Fernelius, that in the feuer synochus you must let blood straightway in the beginning without any purging before. But in what particular diseases you may begin with Phlebotomy and in which not, it is shewed in their severall Chapters in my other former booke.

Montanus
in canonem 8.

Galen. lib. 5.
method. me-
dendi. cap. 14.

Fernelius me-
thodo gene-
rali de curan-
dis febribus.

Concerning such as do thinke that the body is not fit for Phlebotomy, vnlesse it be first euacuated

*Alex. Massaria in d. sputa-
tionibus dua-
bus pag. 201.*

*Mercurialis de
morbis puero-
rum. lib. 1. cap. 2.
pag. 50.*

Mercur. ibid.

with some purging recit or potion, the learned *Massaria* doth mightely condemne them which do neuer attempt the opening of a vayne, vnlesse they haue first once, or perhaps twise, or more often vsed some purging medicine, which without doubt doth trouble the fit occasion of the remedy, and is altogether contrary to the doctrine of *Galen*, who doth teach, that in the beginning of diseases one of the two remedies may be fit, to wit, either *Phlebotomy*, or purging, but in no wise both of them: So that if a man do diligently marke this kind of healing, which now is commonly and euery where practized, nothing can be deuised more filthy then it, nothing more repugnant to the decrees of *Hippocrates* and *Galen*. As *Mercurialis* in his treatise concerning the small pocks and meateles doth forbid purging medicins to be receiued into the stomach at such time as nature should expell the disease by the skinne, because such purgations do trouble the motion of nature, and yet at the same time doth allow a clyster of barley water one pound and a halfe, of oyle of violets foure ounces, of butter three ounces, of red sugar candy one ounce, or of each of them proportionably a lesse quantity if it be for a child, and doth there condemne *Nicholaus Florentinus*, for that he forbiddeth the ministring of a clyster, at such time as the sayd diseases do begin to breake out: for (sayth he) it is a fond thing to thinke that the motion of nature is hindered by clysters. seeing that they do worke only in the bowels, and the motion of nature is both nere the skinne, and in the vaynes, neither do clysters so ouerthrow the powers that we neede to conceiue any feare. Euen so, for as much as in letting bloud, our drift is especially either to ease nature, being ouerburdened, or to expell some dangerous

rous causes of putred matter, by transpirations, sweatings, euaporatings and such like, very expedient it is that we auoyd such purgings, as whereby the worke of nature may be either troubled or weakened, and content our selues with a more fit preparing, brought to passe by glysters. It is a great fault amongst very many in England, that they are so nice and scrupulous in receiuing of a glyster, as seeming to suspect some danger in that, which indeede is the most easie and harmelesse remedy of all others. And as great a fault it is in many of our countrey Surgeons, which so boldly do commonly practise the opening of vaines, neither hauing before any direction of learned counsaile, neither being themselves stored with thole things which should orderly prepare their patient therevnto. They which do minister purging potions at that time when nature doth begin to moue, say they do it because nature doth moue vnperfectly, but to them *Mercurialis* doth answere, *intelligere* *Mercur. ibid.*
an perfecte moueat, in initio non possumus, we can not *pag. 49.*
know in the beginning whether nature wil worke perfectly or no. The safest and surest way is by a clyster so to ease the fulnesse and costiuenesse of the body, that we do not disease the emptinesse and loosenesse of natures powers. If the impurities and crudities be aboue in the stomack, then shall it be requisite before Phlebotomy to vse some vomit, *Massaria lib.*
as to take of the decoction of barley two or three *de scop. mittendi sanguinem*
ounces, of oyle of sweete almonds and oximel simplex each one ounce, of oyle of dill two drams, *pag. 76.*
mingle them and giue them for a potion. Or if the matter be grossier and colder, take of the seeds of rocket, leekes, radish, & broome, each the waight

of a shilling, of the rootes of asarabacca and betony, each the waight of sixe pence, boyle these in water so much as being well boyled will make a good draught, and being strayned dissolue into it two ounces of oximel simplex and drinke it off. In hoate diseases the former will be more conuenient. Fit vomits and clysters they make a preparation speedily, and do nothing trouble the work of nature in expelling to and by the outward parts. Purgations if they be strong they weaken nature: if gentle, then are they long in working, and hauing some hoate qualities in them, must needes as well by their heate as by their drawing a contrary way, trouble that worke whereunto Phlebotomy is directed. *Fontanonus* a learned Doctor of Mountpelier, writing of that synochus or hoat cōtinuall ague, which proceedeth of blood inflamed in the vaynes neere vnto the heart, after that he hath appointed to begin the cure with present letting of blood, *What houre of the day soeuer it be, for feare least the bloud do creepe vnto the lungs, and thereupon should come an inflammation of the lungs, or least it should slip into the bulk, and thereof should arise a pleurisie, or finally least it should putrisie, and so there should be made a putred ague of a not putred, he sheweth after how the body must be made fit for this Phlebotomy, not with a purging potion, least while the purgation is long in working, the patient should receiue harme by the aboundance of boiling bloud, but by a clyster made after this sort. Take of the foure emolliuiues each one handfull, (the foure emolliuiues are, as skilful *Heurnius* doth lot them out, 1. mallowes, 2. marsh mallowes, 3. violets, or in stead thereof pellitory of the wall,*

Dionysius Fontanonus de morborum internorum curatione lib. 4. cap. 2.

Heurnius method. ad praxi. lib. 1. pag. 6.

or mercury, 4. branck vrsine, or in steede thereof beets) of endiue and lettise each halfe a handfull, tenne prunes, boyle all in a reasonable quantity of water vntill the third part be consumed, then strayne it, and take thereof one pound and a halfe, dissolue into it of cassia newly extracted, and red sugar-candy each one ounce, of salt a little, and you haue your clyster. In stead of the pulpe or flowers of cassia, may be vsed *diacassia Mesue*, or *diacatholicum Nicholai*, or *electuarium lenituum Rhasis*, any quantity betwixt halfe an ounce and an ounce and a halfe, according to the strength of the party: the most conuenient oyle to be added to them is the oyle of violets. In stead of the aforesayde things the clyster may be made of a little soluble chicken-broth, goats-milke, and the yolke of an egge stirred and mingled, and putting into it of manna and fresh butter each an ounce first melted together, these be the ingredients most fit for the clysters of such as are to be let blood. And if any Surgeon by reason of his leate and place of abode be so situated, that he shall be enforced sometimes to open a vayne before the counsaile of a learned Physition may conueniently be obteyned, let him be carefull to haue some prouision of these things in store, as he tendereth either the testimonie of a good conscience in respect of himselfe, or sound and perfect health in regard of his patient. For (as before is shewed) many are the harmes and dangers which ensue, if at the time of letting blood there be crude and corrupt humours in the stomack and bowels, prest and ready to be sucked and drawne into the vaynes now newly emptyed by the administering of Phlebotomy.

CHAP. 4.

Of the age, sexe, strength, and solubilitie of the partt,
whether old men, or children, or women being either
with child, or hauing their termes, may be let blond.
Also whether any hauing bodies either too soluble
or too costine may be let blond.



Or the beginning of old age there is
no question but that blond may be let
very safely in it, if other things be cor-
respondent. Trincauel saith, that about
the fortieth yeare of age, that is, about the
beginning of old age, we may most safely be let blond.

Trincauel
consil. 77.

Galen de sani-
tate tuenda
lib. 5. in fine.

But Galen doth make three degrees of old age, the
first he calleth *αυροσπιντες*, signifying such as haue a
greene and lusty old age, such as are able yet to
deale in the affayres of the world. The second he
calleth *μεσημερια*, the middle of old age, more
fit for sleepe and rest then for toyle and labour, to
whome agreeth that of the Poet,

Vt lanit sumpsitque cibum, det membra sopori.

Whē washt he hath, & food for sustenance receau'd,
His lims of rest and sleepe, let seldome be bereau'd.
The third sort he nameth *πλημεναι*, such as are ready
to be sent away, and haue one foote in the graue.
Although many be very much stricken in yeares,
yet if they fall into those diseases which require
blond-letting (as sometimes they do) then may a
vayne be opened as Trincauel sheweth, that in a
plenurie he did let an old man blond, being three-
score yeares of age, and he did happily & speedily
recouer: but he made choyce of the vayne of the
ankle,

Trincauel in
rudimento
contra Brisso-
tum.

ankle, and had a due regard of the strength of the party. For as Galen sayth of diet, so it may be sayd Galen lib. 3. de tuenda sanitate. of Phlebotomy, if old men do neuer so little exceede a due measure they take great harme, whereas yong men though they transgresse very much, yet their harmes are of short continuance. Fernelius recordeth of Razes, that by an occasion of a vehement pleurisie he did open a wayne euen in crooked old age, but the old verse must be remembred,

*Ætatis media multum de sanguine tolle,
sed puer atque senex tollet uterque parum.*

Middle age mickle,

Old and yong little.

As for children how old they must be before they can admit Phlebotomy, Platerus sayth, if they passe Platerus de febris pag. 105. once tenne yeares old, if danger of an inflammation do hang ouer them, I would be bold to open a wayne.

Fernelius doth aduenture further, for when he hath set downe the example of Auenzoar, who with good successe did open a wayne in his owne sonne Fernelius methodi medendi libr. 2. cap. 11. being three yeares old, he after maketh mention

of his owne practise, This we do commonly prone, that in the sixt or fift yeare of age three or foure ounces of bloud doth end the pleurisie and such grienous diseases.

He addeth his reason, because they do often bleede at the nose and finde helps, and why should not arte imitate nature? He concludeth, There is no age which cannot indure some measure of euacuation.

Montanus doth giue two reasons why children should not be let bloud. First, because bloud is as it were the foode of children, seeing that thereby they are not only nourished, but also do grow and increase. Secondly, because when bloud is taken away, one part doth succede in the place of an other,

other, *vt non fiat vacuum*, because there can be nothing cleane voyd and empty, and thereby the body is made either windy or thinne and spongi-ous, and all the powers resolued, as there he proo-ueeth by the auctority of *Galen*. But no doubt al-though *Galen* doe rehearſe children amongst the number of them which are not fit to be let blood, as when he forbiddeth Phlebotomy to those which are apt by nature to haue the pores open as children, and likewise when the constitution is very hoate and dry; also to all which are of a thinne habit of body, and moreover to them which haue the mouth of the stomack either troubled with a sharp flux of choler, or weak, or of more sensibilitie then it ought to be: his purpose is not vtterly to condemne letting of blood in all these sorts of people, when vpon vr-gent necessity they are driuen to it, but to shew that it must be done as seldome as may be, as spa-ringly as may be, and alwayes carefully endeou-oring to remedy and meete with that impediment and danger for which the prohibition was made, and whereunto that nature is found most subiect. For in an other place *Galen* alloweth Phlebotomy in children. Some Phisitions thinke that children haue no strength, but they thinke amisse: we may let them blood if the disease be great. But *Galen* doth in the same place except *maior* yong children, and he cal-leth them *maior* yong children, vntill they come to be fourteene yeares old, and vntil that age he doth not permit their vaynes to be opened. But if the hoat ague (which he hath spoken of in the line before) shall be in a yong child not yet fourteene yeares old, it is not good to vse Phlebotomy, for in such warme and moist bodies euery day there stoweth out and vapoureth

*Galen therap.
method. lib. 12.*

*Galen. method.
therap. lib. 9.*

*Galen. libr. de
ratione curan-
dis per Phlebo-
tomiam.*

*Gal. method.
medendi.
lib. 11. 14.*

or sweateth out very much of the substance of the body.

Hippocrates also doth not allow Phlebotomy in young children, because their strength is soone overthrown. *Quickly doth the power decay in children, by means of the store which they have of flowing out, but it will continue sufficient in flourishing age.* Hippocr. 1. de ratione vitæ morb. 45.

Many doe exclaime vpon Galen, as though his practise of Phisick were too strong and violent for the present estate of mans nature. But we see in this point that Hippocrates and he are a great deale more wary and circumspect, and more loath to ouercharge the strength of man then many of our late practitioners. I thinke it farre more safe to follow them, then to be so rash as to imitate those Spanish Phisitions, of whome Massaria doth report, that they vse to let blood in infantibus vix annum secundum aut tertium natis, in infants scarce two or three yeares old : or that bold Auenzoar, of whome Auerrhoes writeth, that he let his sonne blood, being but three yeares old : or yet to thinke that the experiments of Fernelius, Fuchsius, and Valeriola, who aduentured to let blood at five or sixe yeares old (though perhaps sometimes they wrought good effect) are therefore to be commonly tried againe by vs. For the reason which Fernelius doth alleage, that seeing that by eruptions of blood out of the nose, they finde often ease, and therefore the Phisition must imitate nature. Massaria answereth, that he hath often obserued that those eruptions of blood in children haue not bin healthfull to them, but haue bin occasions of dropsies, and of bad habits of body. And for the experiments which (as they say) haue often done good, he accompteth that either they were rather

Alex. Massaria de scopis mittendi sang.

pag. 55.

Auerrho.

7. Col. c. 3.

Fernel. method. medend. libr. 2.

cap. 11.

Massaria. pag. 56.

offortune then of any good reason, or else that the help was such as whereby they were better vncured then cured. For many may haue for a time a mitigation of paine, for which afterward they may be sory for many yeares following. But if yong infants (who vndoubtedly may sometimes fall into hoate agues called *synochi*, and that also with abundance of bloud) may not haue their vaynes opened, what course is then to be taken with them in those feuers, which can hardly be taken away without diminishing of bloud? *Mercurialis* doth appoynt two helps for them, the one by cuppings, and the other by leaches. The leaches being applied *aut natis aut cruribus*, they do draw out bloud by so small holes, that there is no danger of wasting any vitall spirits. As for cuppings, whereas *Rases* doth defend that they may be vied vnto children at five moneths old, and *Auicenna* will not haue them vsed vntill the infants be at least a yeare old. *Mercurialis* iudgeth it more safe to stick to the opinion of *Anicen*, not to vse them till the children be a yeare old, and that with these three conditions, first, that the child be full of bloud, and of good strength, secondly, that they be rather applyed to the legs then to the vpper parts, because bloud drawne from the lower parts doth not so much impair the strength nor wast the spirits, as that which is drawne in the vpper parts: and thurdly, that there neuer be taken aboue one cunce or two at the most. In the Chapter following he addeth another caution, to wit, that if we seeke to draw bloud out of places farre off, we apply such cupping instruments as haue wide and large mouthes; but if we purpose to draw from neere places, then to vse such

Mercurialis
de morbis puerorum lib. 2.
cap. 1. & lib. 2.
cap. 2.

Rases libr. de
peste. cap. 4.
Auicenna 4.
1. doct. 5.
cap. 21.

Mercurialis de
morb. puer.
lib. 2. cap. 2.

such as haue narrow mouthes, and therefore if we apply them to the legs, they must haue wider mouthes, and if to the places about the loynes the narrower. *Galen* for old age telleth a pretty history of a mad Phisition which rashly did let himselfe blood. *A certayne Phisition of fifty yeares of age, being now a seauennight sick and not very strong, hauing a great paine in his head, not able to stay vntill some of his fellowes could come to him, did in the night time let himselfe blood, and his paine quickly ceased. But a long time after he was discoloured in his body, weake in strength, thinne and without nourishment, so that hardly he could recouer that habit of health which before he had.* *Galen. lib. 12. method. medendi. cap. 1.*

For women being with child *Montanus* sayth, that wee must greatly suspect as well letting of blood, as any other euacuation in them, both in respect of the nourishment of the woman and child, and also for feare of an abortement or vntimely birth. Especially he will haue them to be auoyded at those times when there is most danger of vntimely birth, that is, before the fourth moneth, and after the seauenth moneth. For whereas *Hippocrates* doth permit to purge women with child, being foure moneths gone, vntill they come to seauen moneths, but them which are yonger conceaned, or which haue gone longer we must beware of dealing with them; *Galen* commenting vpon that place, doth compare the child in the mothers wombe to the fruit of a tree, which when it is very yong is soone fetched off with any wind or blasting, and when it is very ripe, it is ready to fall off it telfe, but in the middle time it will remayne strong on the tree against all stormes and tempests: So the infant

Montan. medic. vniuersal. part. 3.
Hippocr. 4. lib. 1.

infant in the wombe is most in danger of vntimely birth, when the woman is either in the beginning or towards the end of her accompt. But *Montanus* sayth, *purging bringeth more danger then phlebotomy*. Phlebotomy is then the more dangerous if the child be great, as is noted by *Hippocrates*, *A woman being with child is deliuered before her time, if that be great wherewithall she is conceaued*. *Galen* expounding that aphorisme, doth giue the reason of it, because the bigger the infant is, the larger nourishment it requireth. Yet *Montanus* addeth, that sometimes women with child do receiue much good by opening a wayne especially if they be full of blood: he sayth, *I haue seene some such women, that if they had bin let blood euery moneth, it would haue bin without danger; and againe, if they had not had sometimes a wayne opened, they would haue bin so grievously sick, that there would haue bin danger of an vntimely birth*. When superfluous blood is taken away, the foode remayneth more holelome for the child. *Fernelius* doth more plainly oppose himselfe against the axiome of *Hippocrates*, and yet not in his owne words, but alleaging against him this censure of *Cornelius Celsus*: *Ould Phisitions did thinke that childhood and old age could not endure such a help as is Phlebotomy: and they were perswaded, that the woman which should vndergo such a kind of curing, should procure an vntimely birth*. But afterward experience hath shewed, that none of these cautions are perpetuall, but that better observations are to be marked, vnto which the Phisitions counsaile is to be directed, for it skilleth not what are the yeares of age, nor what the party doth cary in the body, but what the strength is: a stout boy, a strong old man,

and

*Montanus in
Canon. 7.
Auisenna.*

*Hippocr. 5.
Aph. 30.*

*Montan. medi-
cine vniuersal.
part. 3.*

*Fernelius me-
thod. medendi.
lib. 2. cap. 12.*

*Cornel. Cels.
lib. 2. cap. 10.*

and a woman with child hauing an able body, may safely this way be cured. As *Montanus* doth limit and restrayne this liberty, appoynting it not to be vsed, vnlesse the woman be very full of blood, so *Massaria* doth likewise require, that the Phisition should not only respect the present estate of a woman being with child, but to forecast how she shal haue sufficient nourishment and strength to hold out, vnto the appointed time of her deliuey.

Alex. Massaria. pag. 105.

Concerning women hauing their termes, whether they may securely be let blood, it is thus resolved by *Montanus*, writing vpon the seauenth canon of *Anicenna* concerning blood-letting, that if they haue them immoderately, then may they open the wayne basilica for diuersion. But if moderately and naturally, then is Phlebotomy not requisite. Yet he sayth, if such a woman haue a pleurisie or a sharp feuer, and be in danger that vnlesse the flux of blood be eased by spitting, there should come an inflammation of the lungs, and vnlesse the force of the humour flowing to the brest be stayed, there would be danger of a suffocation, then must the *saphena* be opened, though the woman haue her flowers. For costiuenesse, I referre the reader to the third Chapter of this second booke, how it must be corrected before Phlebotomy. As for the flux of the body, *Platerus* doth giue a caueat generally, that such persōs as are apt to swoonings should not be let blood whē they haue a diarrhæa or loosenesse of the body, because the flux doth make them more apt to swoone. But otherwayes, letting of blood is of it selfe good for such fluxes as *Anicen* sheweth in his fourth canon, and vpon it *Montanus*, because there can be no vacuum, no

*Montanus
medicine vni-
uersalis part. 3.*

Platerus de febribus pag. 113.

*ex diuidit
Montanus*

voyd

Canones med.
vniuers.
part. 3.

Fernel. lib. 2.
methodi me-
dendi cap. 11.

Alex. Massaria
lib. de scopis
mutedi sangu.

voyd emptinesse, therefore there is made an attraction out of the whole body by succession of parts; one vayne draweth from an other, vntill at the last it draw from the stomack, as the like doth happen in hunger. Now when the vaynes haue drawne first one from an other, then they from the liuer, then the liuer from the mesaraick vaynes, and the mesaraick vaines from the stomack, thereby the moysture being plucked away, the body is made more bounden. And besides that stimulating and tickling choler which did before passe downe, and cause the flux to be more violent, is by Phlebotomy drawne back from the bowels. But how is it then that so many vpon letting of blood do become straightway loose bodied? *Montanus* doth answere out of *Auicen*, that it is *non per se*, sed *per accidens*, not of it selfe, but by meanes of some other accident, as of some timorousnesse and feare, or else by ouermuch cooling of the body, when by bleeding, much of the strength is resolued. *Fernelius* sayth, *The raw and vndigested flux which hapneth in a burning feuer, the stomack being dissolued by the drinking of cold water, doth not forbid the opening of a wayne, but a regard must alwayes be had of the power.* *Alexander Massaria* doth aduise, that if the flux do come of venome, or any poysoned humour, we should not let blood, because the greatest violence is then offered to the powers, and the spirits are in danger of fainting.

CHAP.

CHAP. 5.

Of the state of the disease, what consideration must be had thereof in bloud-letting, and in the examining of the strength of the party which we must regard most, the vertue animal, or naturall or vitall.



Hereas euery disease hath foure seuerall times, the first is called ἀρχή, principium, the beginning, which indureth vntill there appeare some signes of concoction, the second ἀύξησης, incrementum,

vel ἀύξησης, incrementum, augmentum vel ascensus, the time of the increase so long as the fits or griefes doe waxe more painefull: the third ἀντησις, vigor & status, the vigour of the disease, when it standeth in one stay, and neither increaseth nor decreaseth: the fourth πρὸς τὴν ἁλίσιν, declinatio, so long as the disease doth decline or decrease. It remaineth now to be discussed in how many of these Phlebotomy may take place, and to which of these it is most fit and conuenient. Montanus deliuereth this for Galens doctrine, In letting of bloud there is no time to be attended, but at what time soeuer, by reason of the fulnesse

an euacuation is shewed to be the best drift, let the euacuation be made, whether the disease be in the beginning, or in the increase, or in the state, so that there be not vndigested meates in the stomach and bowels: but

he addeth a prouiso, dummodo virtus non sit debilis, so that the vertue and powers be not weake. But for the most part Phlebotomy is most fit in the beginning of the disease. That rule of Hippocrates, In the beginning of diseases if any thing do seeme fit to be

Montan. medicine vniuersalis part. 3.

Hippocr. 2. Aph. 29.

mooned, moone it: but when the diseases are at the highest state and vigor, it is best then to rest. Galen commenting vpon it, doth apply it to the two great remedies, and especially to Phlebotomy. The first canon of *Auicenna* expounded by *Montanus* is, *A wayne is not to be opened in the day of the diseases motion*, that is, when the matter of the disease doth boyle and swell, and nature doth strue to concoct or expell it. *Montanus* sayth, there is *duplex motus morbi*, two manner of motions of a disease, the one particular, which consisteth in the fits and paroxysmes, and the other generall or vniuersall in respect of the whole disease from the beginning to the end, and this conteyneth the criticall dayes, the fourth, the seauenth, the eleuenth, the foureteenth, the seauenteenth, the twentieth, &c. Now we must marke how the matter of the disease is mooued, whether in a criticall day or not criticall, and whether it be moued because nature goeth about to concoct it, or because it is furious: *If the motion of it be furious, we must needs vse euacuation.* But when the motion of the disease is such that nature doth concoct the matter, then is it a day of rest, and no euacuation is then to be attempted. And that doth he make to be the meaning of *Hippocrates*, that we must rest when the disease is in state and vigour, *hoc est in die motus morbi seu pugna tempore*, that is, in the day of the diseases motion, or the time of the strife betwixt nature and it. Some affirme that in the criticall day blood is not to be letten, although it prooue a day of rest. But *Montanus* doth confute them, and doth iustifie that rule of *Auicenna*, *When nature doth moone, moone thou nothing, but when she mooueth not, moone thou*

Montanus
in Can. 1.
Auicennae.

thou in the time of her motion. The time of natures motion is the criticall day, and therefore in the criticall day we must stirre the body. But therein the Phisition must be very wary and circumspect, for if nature haue moued in the fourth day (which is the declarer of the seauenth) then may we not euacuate in the seauenth day. And if in the seauenth there appeare any motion, we must not mooue in the eleuenth. But if in the criticall day nature do neither mooue, nor shew some good token and prooffe that she will mooue, then may wee indeuour to mooue by Phisick. Afterward vpon the twelfth canon *Montanus* reprooueth them which affirme that blood is not to be let after the fourth day of the sicknesse, and prooueth out of *Galen*, that in some infirmities a vaine may be opened a hundred dayes after the beginning thereof. But in sharp feuers we let blood only in the beginning, because after the fourth day the powers do faile, and for that cause he sayth *Hippocrates* doth appoynt, In sharp diseases vse euacuations in the beginnings. *Trincauel* likewise doth apply vnto Phlebotomy that other axiome of *Hippocrates*, non esse vacuandum in principio nisi turgat morbus, that we must not purge in the beginning vnlesse the disease be furious and vehement. *Turgere dicuntur qui adeo concitato motu agitantur ut pre illorum molestia agrotus non possit quiescere, quod magni morbi est indicium*, those diseases are sayd to rage or swell, which are caryed with such violent motions as that the patient can take no rest, and qui ad excretionem festinant, which would faine breake out. He bringeth in the example of *Galens* owne practise, which (as he recordeth of himselfe) when he was sent for vnto a man

Montanus
in canonem
Auicenne 12.
Gal. method.
therap. lib. 3.

Hippocr.
1. Aph. 24.

Hippoc. 1. Aph.
22.

Trincauel
epist. 22. ad
Aloisium Cri-
uellum.
Massaria.
Gal. in fine
lib. 3. commet.
in 6. de morbis
vulg.

6.Epid.sect.3.
com.44.

Hippocr.
1.Aph. 22.

Fernel.lib.2.
method.medi-
candi cap.3.
Fuchsius instit.
lib.2.

He meaneth
of cruditates
morbose,
which remain
so long untill
the disease be
overcome.

sick of the pleurisie, when he saw first that he auoyded blood by spitting, and secondly, that (as the patient being asked did confesse) he felt but little griefe on his side, he vsed some applications to him, but would not let him blood, because it was a most gentle kind of pleurisie. But how may the former part of that aphorisme of Hippocrates be applyed to Phlebotomy, *Purge things concocted and ripe, but not while they are raw?* Is concoction first to be expected before we can vse Phlebotomy? *Fernelius* and *Fuchsius* do in this poynt bitterly inueigh against *Auicenn*, for that he forbiddeth a wayne to be opened vnlesse the humours be first concocted. Their reasons are especially these, first, because in sharp and violent diseases, and where there is aboundance of blood, it must needs be dangerous to deferre: secondly, though the disease be not sharp, yet may the multitude of blood of it selfe do harne, if it be not presently eased: thirdly, because when signes of manifest concoction do appeare, then (as *Fernelius* holdeth) we must deale no more by letting blood, but the rest of the cure must be finished either by purging, or by detruing meanes, as in agues, by sieges, vrines, and sweates, in a ripened pleurisie by spitting; in inflammations of the liuer, if they be in *cano hepatis*, by soluble medicins; if in *gibbo hepatis*, by things diuretick, or causing vrine. And (the more to condemne *Auicenn*) *Fernelius* doth plainly auouch, that letting blood is most fit then when signes of crudities do appeare: *At what time so euer, yea if it were the twentieth day of the sicknesse, if signes of cruditie do appeare, we may open a wayne: for we measure Phlebotomy not by the number of dayes, but by the concocting*

cocting of the matter, and the dissolving of strength: If neither of those do happen, Phlebotomy may be vsed. *Montanus* interpreteth the meaning of *Auicenna*, that when he will not haue blood to be let before concoction, he doth ayme especially at such diseases in which a thick grosse humour doth abound, as in quotidian, and melancholick feuers, whose humour being tough and raw, would be made more rebellious if blood were taken away. First therefore he wil haue that humour to be concocted and euacuated, and then if it be thought conuenient to open a vayne if the blood be corrupt, and in great plenty. *Trincanet* maketh this to be the chiefest concoction that is required before letting blood, in respect of the blood it selfe, to wit, when it is too thick to make it more fluxible, as is before in the third Chapter of this booke. There are two kinds of concoctions, the first called properly *πρώτος*, whē naturall heate doth turne the food into due nourishment, conteyning vnder it those three sorts or degrees of concoction mentioned by *Galen*, whereof the first is called by him *the concoction in the stomach and bowels*, wherein the purer part is sent towards the liuer to be made blood, and the impure is cast out by siege. The second, *the concoction in the vaines*, wherein the moyst whitish iuice being by the mesaraick vaynes caryed to the liuer, and by the liuer turned into blood, is by the vaynes and arteryes perfected and distributed into all the body, in respect of the purer part thereof, to wit blood (as it conteyneth the principall iuices) and seede, and the impure is by the vaynes *ὑποπύρος*, conueyed into the bladder, and from thence cast out by vrine. The third, *the con-*

Montanus
in Canon. II.
Auicenne.

Trincan. in ex-
planatione
lib. I. ad Glau.
cap. 12.

Galen lib. 4.
de sanitatē tu-
enda cap. ult.

coction in the flesh, wherein the purer part of the blood being by the vaines and arteryes caryed into all the body, is by an other separation in respect of the purer part thereof turned into substance and spirits, and the impure is cast out by sweate, as *Weckerus* nameth three kinds of excrements appertayning to the three degrees of concoction, *excrementa prima concoctionis stercora; secunda, urina; tertia sudores & exhalationes*. These three concoctions being finished, the best part of the nourishment is assimilated and made one to the flesh, body, blood and spirits of him that is to be nourished. *Galen* sayth, *When the third concoction is ended there is an assimilation made to the part that is to be nourished*. These concoctions and the seuerall degrees thereof do all deale with that matter *qua est benigna & familiaris*, which is good and familiar vnto the party that hath receiued it. There is an other kind of concoction called *παραρσις*, or *παραρσις*, wherein naturall heate doth deale with a matter not that is good and familiar, but such as doth cause disease, and doth seeke either to assimilate some part of it if she can, or else to make it either lesse hurtfull to the body, or more fit to be expelled. These two distinct kinds of concoctions when naturall heate can not or doth not performe what it would or should, then they leaue distinct kinds of crudities, as *Galen* sheweth, speaking of cholerick crudities, as those whome the Grecians call *ιχθυας*, whatsoeuer (sayth he) is of nature overcome is called by *Hippocrates* concocted, and what soeuer nature can not yet overcome is called crude and raw, as he giueth in the same place an instance of purulent matters in inflammations, of spittle, of rheumes,

Weckerus
antidotar.
special.
pag. 416.

Galen. lib. 4.
de sanitate
tuenda.

1. Epid. sect. 2.
com. 44. 45.

2. De rat. viſſ.
morb. acut. 44.

rheumes, and of watrish humidities (such as do passe out in those vrines which are called *vrine cruda*) and in choler, which being raw (he saith) it is yellow, sharp, & ill sauoring; but being concocted, it is more pale, and not so ill sinelling. As for spittings and snot, such they may be that they may be the excrements of this later kinde of concoction, and such they may be that they may be excrements of the last degree of the former kinde of concoction. How these seuerall kinds of concoctions are to be respected in purging, and whether in acute or sharp diseases we may giue minoratiue or purging receipts before there appeare signes of concoctiō of the matter of the disease, I do handle at large in my second part of the great Phisick remedies called *Cathartice*. As for Phlebotomy, seeing that the chiefest intents thereof are to ease the ouer-much fulnesse of the body, or to pluck back or diuert a humour from or to some place, we are not so much to wait for the concoction of the matter of y^e disease (vnlesse it be the ouer-much grosse-nesse of thick blood) as to marke the concoction of nourishment, that the first degree thereof be done, and the second well forward. For if we let blood when the stomack or first vaynes are full of indigested crudities, they will passe into the vaines which are emptyed and make greater obstructions. As violent exercises vpon full stomacks do disperse and distribute raw humours into the body to the much hurt of the body, so doth also Phlebotomy, and therfore that may partly be applyed vnto it which *Galen* hath written of exercises, *Then is the best time when the meate before taken is perfectly concocted and digested in respect of the two first con-*

*Hippocr. 2.
Aph. 23. acuti
morbi diebus
14. indicantur.*

*Galen de sani-
tate tuenda.
lib. 2.*

coctions. The way to know this time is by the colour of the vrine. A waterish vrine doth shew that the iuice which is sent out of the stomack and bowels into the vaynes, is yet raw and undigested. The fry, red, and cholerick vrine sheweth, that the iuices are long ago concocted already. That which is moderately pale, is a signe of the second concoction euen now finished. I haue shewed already in the end of the eight Chapter of my former booke, that in many diseases the colour of the vrine may deceiue, and in what cases it may most deceiue: I neede not therefore heere to speake any more thereof, but only to poynt out those other circumstances & signes, which together with it are ioynly to be weighed and considered. To know perfectly the state of the body, Galen doth in one place ioyne with the colour of the vrine five other things to be heedily regarded. First, we must ponder what diet the diseased body hath lately vsed, for sundry sorts of meates and wines may cause many alterations in the vrine. Secondly, whether he haue bin wont naturally to abound with many ill and vicious humours, and whether any outward signs therof haue appeared by itches, pustles, ring-wormes, swellings, inflammations, and such like. Thirdly, whether any accustomed or naturall enacuations haue lately ceased, as vomits, hemorrhoides, fistulaes, fluxes, bleedings at y nose, termes, sweats, and such like. Fourthly, whether they hauing bin accustomed heretofore to auoyd superfluities by Phisick, and haue of late neglected it, and not vled such purgings, vomits, and bathes as heretofore they haue done. Fifthly, to examine not only the vrine, but other excrements, as egestions, spittings, sweates, for as he sayth a little after, The sweate declareth
what

Galen de sanitae
tate tuenda,
lib. 4.
fere in initio.

what humour aboundeth in all the body, for it is whiter, paler, or yellower, according as the humours be more or lesse phlegmatick, or cholerick, and if the humours be putrified the sauer of the sweate will greatly bewray it. But in matters that do concerne the vaynes (as doth especially Phlebotomy) Galen will haue vs especially to respect the vrine.

We haue no effectuall and euident signe to discerne the superfluities that are in the vaynes, but only that which is by vrine. If the humour be altogether crude and raw, the vrine will be thinne and watery, and neither haue any hypostasis or sediment, nor haue any cloudy matter hanging in the middest: but when it is concocted, these things do appeare, and besides, some thinne cloudes do swimme upon the top. If the thinne and thicker parts do quickly deuide, and that the sediment be white and smooth, and in euery part equall, that sheweth that straightway eare one can speake the word nature will ouercome all. If it be longer eare the separation be made, longer it will be eare the humours be ouercome. But if in the vrine there be no separation at all, but that it remayne still as it was made, or else if it do breake it be with a bad sediment, then is nature weake, and hath neede of some other help to digest the humours. Many other signes there are of crudities, as the small quantity of vrines, signifying that by their rawnesse they are hardly sent out. Likewise the thicknes of vrine, shewing abundance of raw humours, and thereupon deprivation of concoction. Further, the ill contents in vrine, and the inequalitytie of the pulses, but these and many other signes of diseasy crudities must not stay vs from letting of bloud if the greatnesse of the disease do require it, and the party haue a full body, and sufficient

Gal. ibidem paulo post.

Sic Hippocr. libr. πρὸ τῆς ὑγίαινης.

Inequalitytie and distemperature of the pulses, are signes of morbose cruditates.

Fernel method.
lib. 2. method.
medendi.
cap. 13.
Or cap. 14.

Galen. libr. de
ratione per
vene sectio-
nem.

Galen. method.
medendi.
lib. 9. cap. 10.
Or de locis af-
fect. lib. 5. ca. 7.

sufficient strength : but rather as *Fernelius* sheweth when signes of crudities are, we must vse Phlebotomy as the remedy. Only touching our food last taken, let the stomach, bowels, and (if it may be also) the mesaraick waynes be cleared from raw and corrupt humours, and let such a time be chosen wherein also the disease hath most quietnesse from the motions of the paroxysmes. *The greatest rest is in the middle time of the intermission or remission*, for so shall we be in no danger of drawing the inflammation into the greater waynes (whereby of an intermitting feuer may be made a cōtinuall) and the powers also of the patient shall least be indangered. But seeing so often *Galen* and all Physicians in the matter of Phlebotomy do still make their prouisoes that the powers be not dissolued, a question may here be moued of what powers they do especially speake, and how the strength of those powers shall be knowne. *Galen* describeth three powers in man, the first he calleth *the naturall or nutritiue power*, that hath his fountaine in the liuer, and conteyneth vnder it *the attractiue power*, *the retentive*, *the expulsiue*, and the fourth *the alteratiue power*, which is generally to turne the nourishment into substance and particularly to make blood. The second vertue or power is called *the vitall power*, hauing the seate in the heart, giuing life to the whole body, and conseruing the essence of the vitall spirits. The third he calleth *the animall or rationall power*, hauing the seate in the brayne, and bringing forth sense, motion, and vnderstanding. Each of these three powers haue their particular instruments to worke by. To the naturall power do serue the waynes, to the vitall the arteryes, and to the animal

animal the sinewes. Now which of these powers in letting blood must most be respected? No doubt there must a care be had of all, for as *Galen* sayth there, *If any one of them do perish, it must needs be that all the rest shall perish also.* And giuing precepts of letting blood, when he hath taught how we shall try the animall power by the voluntary motions, and the vitall by the pulses, and the naturall by good or bad nourishment, or by good and bad colour, he concludeth generally, *when these powers are strong, let blood.* So whereas *Hippocrates* doth bid vs when diseases are in the vigor to rest, and not to vse phlebotomy or purging (for so *Galen* doth expound it) *Galen* doth giue the reason there of it, because the animall power is then weake and in danger, although the vitall and naturall be strong. Yet certaine it is that the vitall power is that which chiefly we are to obserue in Phlebotomy, as he doth elsewhere at large declare, *The greatest dignity of all is that which concerneth the actions of the heart, and of all most needefull to be considered in them that are sick.* He doth in that place compare the operations of the liuer and of the brayne with the vitall powers of the heart, but he will haue the heart to be principally respected. In extreame apoplexies the animal powers are decayed, yet because the vitall powers are not extinguished Phlebotomy is allowed, and doth often worke good effect. That is the cause that *Galen* doth giue out that precept in his booke of Phlebotomy: *In all these former rules thou must still haue an eye to the strength of the party touching his pulses.* By that word (touching his pulses) he sheweth both that the vitall power is most to be regarded, and also

Galen. method. medendi. lib. 9. cap. 10. Gal. libr. de curatione per venæ sectionem cap. 6.

Hippocr. 2. Aph. 29.

Galen method. medend. lib. 7. cap. ultimo.

Galen de curatione per venæ sectionem. cap. 14.

Other signes
of strength
sayling, by the
pulses, are
shewed after
Chapt. 8.

also doth point out the meanes how we shall take triall of it, to wit, by the distemperature and the inequalitye of the pulses.

CHAP. 6.

Of the time of the yeare, the time of the constellation of the planers, and the time of the day most fit for letting of blood.



He best time of the yeare for Phlebotomy is knowne of all men to be the Spring, according to that aphorisme of Hippocrates, *The Spring must be the time of letting blood and purging.* The Autumne is in fitnessse the neereft vnto the Spring. The extremitie of the heate of sommer is most dangerous as Galen sayth, hauing named a little before the canicular dayes. *They which are sinisterly euacuated in very hoate times of the yeare, do perish either with swoonings, or with resolutions.* The extreame cold also of the winter will not permit Phlebotomy; or if it do, it must be little: *Montanus* giueth the reason, because the body is ouermuch cooled, and is also made so thinne, that the cold doth strike into the inward parts, whereby are brought diseases of very long continuance. Galen will haue them which are vsually sick in the spring time to be let blood in the beginning of the spring, but such as most commonly haue their sicknes in the sommer time he would haue them to open a wayne in the end of the spring a little before sommer begin. The fittest time for letting blood is when the signe (as we call it) or the moone is in *Aries, Sagittarius, Cancer, Libra, Scorpio, Aquarius, or Pisces*, vnlesse in any of these

Hippocrat.
6. A. b. 47.

Gal. ad Glauconem therap.
lib. 1.

Montanus
in Canonem
tertium
Auicennae.

these signes the moone do predominate in that place that is to be let blood, as in *Aries* the head, *Taurus* the neck, *Gemini* the shoulders and armes, *Cancer* the breast, stomach, and ribs, *Leo* the heart and back, *Virgo* the belly and bowels, *Libra* the raynes and loynes, *Scorpio* the secrets & bladder, *Sagittarius* the thigh, *Capricornus* the knees, *Aquarius* the legs, *Pisces* the feete. There must also a regard be had of the age of the party that is to be let blood, for to them which be growing or yong, the first quarter of y^e moone is most meete. To middle aged people, the second quarter. To the declining age, the third quarter; and to old age the last quarter. The complexion also must be respected. If the party be cholerick let him blood when the moone is in *Cancer*, *Scorpio*, or *Pisces*. If phlegmatick, let the moone be in *Aries*, *Sagittarius*, or *Pisces*. If melancholick, then let the moone be in *Libra*, *Aquarius*, or *Pisces*. It is ill to let blood when the moone is in the full or in the change, or within three dayes either before or after. It is ill also when the moone is in conjunction or opposition with *Saturne* or *Mars*. Further, it is ill when the moone is in conjunction or opposition with *Venus* or *Mercury* combust, or in a quadrate aspect with *Saturne*, *Sol*, or *Mars*, vnlesse the aspect be passed at the least eight degrees. But it is good to let blood when the moone is in a trine or sextile aspect with *Iupiter*, *Sol*, *Venus*, and *Mercury*, but especially with *Iupiter* and *Venus*, with whome all aspects are good, provided that they be not combust. In cases of extremie there is no staying for signes or aspects, for (the necessitie of the disease compelling) I haue my selfe opened a wayne the signe being in the same place,

place, and yet with good successe. But if a man haue liberty to make his choyce of the time, I hold him vnwise that will not take it as neere as he can agreeable to the auncient grounds and principles of Astronomy. It appeareth very many wayes that God hath giuen a power to the heauens, and an influence to the Starres and Planets, which doe mightily worke in the things here below, not to induce any necessities, but to dispose the inclinations, so farre as God hath appoynted and determined. Consider how all the times and temperatures of the yeare do alter and change according to the course of the sunne, and what difference there is betwixt the operation of Phisick, and the dangers of diseases assaulting vs in the spring, and such other as do befall vnto vs in the canicular dayes. Marke the operation of the Moone in such plants as are set, and such seeds as are sowne in the feuerall times of her age. Waigh the force also of the moone in those which in the scripture are called lunatick. *Origen* doth report the iudgement of Phisitions, *Humida moueri in capite secundum aliquam compassionem ad lumen lunare quod humidam habet naturam*, That moyst things are mooued in the head according to the sympathie of the moone which hath a moyst nature, but he thinketh rather that some vncleane spirit doth obserue the diuisions of the situations of the moone and worke by them. But *Serenus*, and after him *Mercurialis* do giue this the reason, because they which are conceived or borne in the wane of the moone are much subiect to the falling sicknesse. Howsoeuer it is, it is sure not without some cause that they are called lunatick, that is moonish, or mooned. And behold

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3
Math. 4. 24.
Math. 17. 15.

Serenus lib. 1.
de medicina.
Mercur. lib. 2.
de morbis puerorum cap. 3.

behold also the power of the Moone in the ordinarie flowers of women, who are otherwise also sometimes too much subiect to that variable and tempestuous planet. See what force it hath likewise in the sea concerning the ebbings & flowings thereof, as also in respect of cockles and diuers other shell-fishes waxing fuller or lesser according to the age and proportion of the moone. Let also the experiences of mariners somewhat preuaile, which finde the whole seas to be caryed by the course of the firmament from the East vnto the West, whereupon they which trauaile to the west Indies do better passe thither in one moneth, then they can returne againe in three, besides the trials which they haue of their loadstone poynting towards the North, and their needles and compasses answering thereunto. In Phisick the criticall dayes falling out either in hard or benigne constitutions of the planets, do dayly giue vnto vs abundant testimonies. In histories what auctor can you almost reade, but you shal finde therein the troublesome alterations which haue followed vpon great eclipses? In diuinitie see how *Iob* doth attribute vnto the Pleiades a sweete influence to cause the kindly spring, and to *Orion* a power to cause raines and showers, but so, that God doth loose or hold back the bridle at his only will and pleasure. And waigh those words spoken in the creation of the Sunne & Moone, let them be (said God) for signes and for appointed times, and for dayes, and for yeares. I do vtterly condemne the abuses of Astronomy, as first when men will make them signes of southsaying, to foretell things to come, and so to take that vnto them which is proper to God only,

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Iob. 38. 31.

Gen. 1. 14.

Isay 41.23.

as it is in the Prophet: Shew vs the things that are to come that we may know that ye are gods. God sayth, I will destroy the tokens of the soothlayers, and make the wise coniecturers fooles. The will of God is free and soueraigne ouer all his creatures in euery moment to order, alter, rule, and dispose them as seemeth best to his heavenly wisdom.

Fata mouere deus, tollere fata potest.

Pencernus.

We see in one battayle, or in one time of pestilēce (God being angry with sinne, or permitting the Diuell to rage) many thousands do dye at one time, which no doubt most of them were borne in diuers manners of constellations of planets: *Weaker natures are subiect to the stronger, and particular causes are subiect to the generall.* Saint Augustine

August. lib. 10.
de ciuitate dei.

Exempla dan-
tur in Abule &
Caino, in Iacobo
& Esau &c.

sayth, *In the lines of them which are borne twinnes, in their actions, casualties, professions, preferments, and in their very death there is so great a diuersitie, that many meere strangers are more like one to another, then those which in birth were separated with a very small distance of time, and sown as it should seeme by coniunction in one and the selfesame moment.* It was a damnable opinion amongst the Chaldeans to make the constellations of the starres to be a table of all fatall hanes, as though the whole life of man were written therein. As *Tarutius Firmianus* being skillfull in the Chaldean sciences, tooke vpon him by the manner of *Romulus* his life and death, to calculate what time he was borne, that because he wrought such actes, and dyed in such a manner, therefore he must needs be borne such a yeare, and such an howre. The superstitions of the Chaldeans were such, that they would not build a house, nor attempt any iourney, nor so much as

put

put a new garment vpon them but they would first haue a regard of the constellations and planets. These fond and wicked abuses of astronomy I do wholly reiect and disallow. But in the vse of Physick seeing that a great part thereof doth concerne the flowing and issuing, the staying and the passing away of humours, and that it is found by the termes of women, by the fluxes and refluxes of the seas, and many other wayes, that the moone hath by the maker thereof certaine influences giuen vnto her, much auaylable to the auoyding and correcting of humours; I do not thinke but if it be found by the experiences of former ages, that at sometimes and in some signes or aspects her forces are more violent then at other, we may haue some consideration thereof, and make choyce of such as are most meetest for our purpose, euen as the husbandmen may also take such times for their grafting, sowing, planting, and such like, as by the proofes of all nations haue appeared to be fittest for the fruitfull growing and propagation thereof.

To returne now to our argument of letting blood, seeing that as I haue shewed the signe may sometimes seeme to be good, and yet by other aspects the same may be controuled, what course is then to be taken when for want of good helps we can not come to the knowledge of the aspects? Surely then our best way will be to obserue the manner of the weather. When the weather is setled to be very dry, then are not humours apt to flow, but in open and moyst weather we find them very fluxible. *Fernelius* sayth, *The north wind utterly forbiddeth letting blood, only the south wind doth best admit it in the cold time of winter.* The time of the day is

*Fernel. lib. 2.
methodi me-
dendi. cap. 12.*

H

made

*Gal. de vene
sectione ca. 14.
Fuchf. Instit.
libr. 2. sect. 5.*

*Fernelius me-
thod. medendi
libr. 2. cap. 13.*

*Montanus in
consilijs de
febribus
Ficinus de stu-
diosorum soni-
tate tuenda
lib. 1. cap. 22.*

made by *Galen*, and out of him *Fuchsius*, to be the fittest within an howre or thereabouts after the party is risen, after the yesterdaies meate is pretty well digested and the body eased as well by stoole as by making water. *Fernelius* sayth, in *suffocante pleuritide & angina quouis tempore fiat*. If the disease be an intermitting ague, I haue shewed in the last Chapter that the fittest time is the middle betwixt two fits at what time of the day soeuer it be, and the party must a little before be dieted there-after. *Montanus* sayth, *If he looke for the fit in the morning, let blood in the euening before. Marsilius Ficinus* will haue schollers, who abounding with blood do vse Phlebotomy to preuent diseases, to vse it both morning & euening, but at either time a little, *four ounces in the morning, and as many in the euening*, because it is dangerous to auoyd too much blood at once, but of this in the eight Chapter.

CHAP. 7.

On whether side the vayne is to be taken when we let blood to preuent diseases, or to auoyd or deriue their matter: also what vayne must chiefly be chosen for sundry infirmities.

ON what side the vayne must be taken in great & dangerous inflammations where there is cause of reuulsions, I haue shewed already in the teauenth Chapter of the former booke: It is not denyed, but that in some cases it is requisite that the vayne should be opened in the same side, where the inflammation lyeth. But if any do vrge a necessitie that it must needs be euer

on the arme of the same side, Trincavel doth aske *Trineavel de*
one question : *Si in muliere supprimantur solita pur-* *ratione curan-*
gationes & ex ea occasione supervenerit pleuritis : Item *di part. corp.*
si ex retento sanguine ex hemorrhoidibus fluente (ut *aff. lib. 6. cap. 4.*
ait Hippocr. 6. epid. & in libro de humor. quod quibus
sanguis ex hemorrhoidibus fluere solet, illi neque plen-
ritide neque peripneumonia capiuntur) qua vena iam
secanda? illane qua costis affectis communicat, an po-
tius alia impellens particula? but of this already, I
hope, sufficiently in the Chapter above named.
The doubt is now on what side the wayne must be
opened when we do it to prevent diseases, the old
verse is commonly knowne :

Æstas Ver dextras, autumnus hyemsque sinistras.
The spring & sommer right side vains would haue,
But autumn and the winter left do craue.

But here we must take heed that we use not too
much to let blood on one side, for that thereby we
see many to be brought to particular palsies, and
to lose the use of one eye or eare, or the strength of
one arme or side, partly because the longer that
superfluous humours haue found a vent in one
place, the more apt they are to haue recourse to the
same place ; and if they haue not their former pas-
sage, they will easily either make obstructions, or
breede some inconuenience ; and partly because
the letting blood too much on one side, may per-
haps coole that side more vehemently then is re-
quisite. If therefore thou hast bin heretofore let
blood on the one side, thy best way is the next
time to take the other side, and to labour by all
meanes that the humours may flow equally, and
that they may be caryed with no greater force
towards thy one side then thy other. When there

The second booke of
is neede of euacuation and deriuation and not reuulſion, then doth Galen appoynt vs to take the vayne alwayes on the ſame ſide. If the right ſide of the wombe be grieved, auoid bloud out of the right hand or right leg; and if the left ſide be enflamed, then take the ſide that is right with it: for that is the meaning of the *ver' leg' of Hippocrates*, to wit, that we open the inward vaynes hepatica and lienaris directly, for they are neereſt to the affected parts, and moſt right vpon it.

Galen lib. 2.
cap. 7.

Gal. lib. de con- And in an other place, The euacuation out of the
ſtitutione artis neereſt vaynes and which are common to the place af-
medice cap. 17. fected, is both beſt and eaſieſt.

Fuchſ. Inſtit.
lib. 2. ſect. 5.
cap. 5.

As concerning what vayne is to be opened, this rule is moſt generally preſcribed, that if the parts beneath the neck be grieved, we muſt open the inward vayne of the arme called generally *interna*, or *baſilica*, or *axillaris*, and more particularly if it be in the right arme called *iecoraria*, or *hepatica*, in the left *lienaris*, this is opened commonly on the left ſide, if the heart, lungs, or ſpleene be affected, and on the right ſide if the liuer or ſtomack be affected. If the parts which be afflicted be aboue the neck, then we open the outward vayne called *externa*, or *humeralis*, or *cephalica*.

Some make
funis brachij
to be the vaine
of the middle
finger, a twig
of *cephalica*.

The middle vayne called *communis*, or *cardiaca*, or *nigra*, or *funis brachij*, or *mediana*, is then vſually opened, when either one of the other doth not appeare, or elſe when the infirmitie is as well beneath as aboue the neck, for this vayne taketh part of both the other. For the lower parts about the hips, bladder, or wombe, take the vayne by the knee, or by the ankle. The raiues as they are placed in the middeſt, ſo (as *Fuchſius* ſheweth) they do partake with both. For if the inflammation in

the

the raynes be new, and that there be abundance of blood, then may you take the vayne in the arme: but when it is a confirmed disease, such as is called *nephritis*, then open the vayne either in the knee, or in the ankle. If any ill humour be settled in those parts which are betweene the raynes and the flank, *Fernelius* doth appoynt that if the party haue *corpus plethoricum*, then first we should open the basilica of the same side, and afterward the saphena. But if the body be not *plethoricum*, then he sayth the only saphena shall suffice, that is, the inward vayne of the foote, for as the outward is called *sciatica*, so the inward saphena.

*Fernel. lib. 1.
method. medendi. cap. 9.*

If you will not haue the blood to come fast and speedily, then for the cephalica you may take his branch betwixt the thumbe and the fore-finger. And for the basilica you may take the vayne by the little finger called *saluatella*, or *titillaris*, which is a branch of the basilica. For deriuation to deriue the matter of a griefe, if it be in the fore-part of the head, take the vayne of the fore-head; if in the eyes, the broad vaynes at either corner; if in the eares, the vayne vnder the eare; if in the iawes, that which is vnder the tongue; if in the lungs, or spleane, or breast, or heart, the inward vayne of the left arme; if in the liuer, the right basilica. Often the same vaynes will serue both for reuulsion and euacuation, as *Galen* sheweth, speaking of an inflammation of the liuer. We must both pluck back and also anoyd the blood which is caryed to the liuer by *Gal. method. medendi lib. 13.* Phlebotomy, opening the inward vayne of the right cubite, because directly, and with a broad way it doth communicate with the hollow vayne: if that do not appeare, open the middle vayne: if that also can not we ll

be perceined, then take the other third which re-
Platerius de fe-mayneth. This speech of *Galen* maketh me more
bribus pag. 114. willing to subscribe to the opinion of *Plate-*
rus, who defendeth that in letting blood wee
 must rather choose that wayne which doth most
 swell with fulnesse of matter, then to make any
 difference betwixt the waynes of the armes, seeing
 in one place about the throat they come all from
 the hollow wayne, and which wayne hath best re-
 lation to the parts most ouercharged, the fulnesse
 thereof will sufficiently make manifest.

CHAP. 8.

What manner of incision must be made, how large, how
small, how deepe, what quantity of blood may be ta-
ken, and therein of the meaning of Galens word to
let blood vnto *λειποθυμία*, *deliquium animi.*

Hippocr.
6. epid.
sect. 2. 33.

IT is a notable aduertisement of *Hippocra-*
tes, We must open passages, as the nostrils
 and others, but it must be what we must, and
 how we must, and of what sort, and what way, and when,
 and how much we must, as sweats, and all other things.
 This precept of circumstances, as it appertayneth
 generally to all euacuations, so doth it greatly take
 place in the matter of Phlebotomy. I haue shewed
 already the greater part of these circumstances, it
 remaineth heere that I describe only the manner
 how, and the quantity how much. *Fernelius* adui-
 seth the Chirurgicalian to take diligent heed that he
 strike not either a place swelling with some win-
 dinesse, or an artery, or a tendon in stead of a vaine.
 The tendones be instruments of moouing in the

Fernel. lib. 2.
methodi me-
dendi cap. 15.

top of the muscles, made of sinewes and ligatures; and knitting them to the bones, they be harder then sinewes, and yet not so hard as ligatures. The artery being pressed downe will shew it selfe for a vayne; which if it be cut, it will neither come together againe, nor heale, but that part will be taken with a mortification, and become as dead and senselesse. He counsaileth also the Chirurgian, that when he hath setled the launcer in one hand, leauing out no more of the end or poynt then what is sufficient to pearce, and hath with the other hand so taken hold of that part of the body that is to be let bloud, that he may strengthen and hold stedfast the vayne with his thumbe, then let him put forward his launcer faire and softly without any hastinesse gently, and no further in then is sufficient. *Fuchsius* willeth that if the vayne be trembling and not constant for the percing, the next place must be bound as well aboue as also beneath: And although the vayne be well opened, and the bloud flow freshly, yet in the middle of the flowing set your finger a while vpon the wound, both that the strength may be more refreshed, and lesse scattered, and also that the corrupt bloud may the better be brought out of the inward parts vnto the place where the vayne is opened. *Fernelius* giueth one generall rule to know what vaynes must be opened a little ouerthwart and somewhat sidelong, and which must be opened right along the vayne. If the vayne be in a ioynt, then let the pearcing of it go a little sidelong, because in the moouing of the ioynt the sides of the incision if they go right with the vayne would gape, and so would the wound be the longer in growing together. But in

He meaneth it can very hardly be healed: see the beginning of the tenth Chapter.

Fuchsius Institut. lib. 2. sect. 5.

Fernel. lib. 2. methodi mendendi. cap. 15.

Montanus
medicine uni-
uersalis part. 3.

Ibid.

the head, hands, and feete if the incisions go right with the vayne he sayth they heale the sooner, because there y sides do still close together. Of what bignesse the orifice of the wound must be, it is discussed by *Montanus* writing vpon the ninth Canon of *Anicen*. A little hoie (sayth he) is best to conserue the strength of the party, both because the most that then commeth out is but thinne and waterish, and also because the blood goeth not so speedily out, whereby the heate and spirits are not so sodainely exhaulted. But a little orifice hath on the other side a great discommoditie, in that it maketh no euacuation of the thick and grosse parts. So likewise a great orifice hath one good benefit in auoyding grosse humours: but it hath an other great danger, that by a too sodaine and ouer-liberal effusion the vertues and powers may be cleane ouerthrowne. If the blood be subtile and power weake, let the hole be little: but if the blood be thick and the vertue strong, then let the hole be great. *Anicen* teacheth, that when we let blood to preserue from sicknesse, then must the orifice be great, because the powers are yet constant; and likewise when we let blood in the winter or cold weather, because then the coldnes of the ayre doth keepe the spirits from flying too fast out. But in the sommer or hoat weather, he will haue the orifice to be narrower, because the blood is commonly then more subtile, and heate doth helpe much to dilatation & passage. If it fall out to be temperate weather, then to proceede in the meane betwixt both. The verses of the *Salérline* schoole are to be vnderstood of full strength and powers,

Fac

Fac plagam largam mediocriter, ut cito fumus.

exeat uberius, liberiusque cruor.

Make well and wide thy blow,

That blood and fumes may largely flow.

Hippocrates sayth, In places where is no danger, and where the blood also is grosse, use a broader launcer, for so the blood will passe, otherwise not: but take heed of *Hippocr. libr. πρὶ ἰατρᾶς de medico.*

going too deepe. *Fernelius sheweth some dangers, Under the inward wayne lyeth an artery, under the middle a sinew, and under both dolye the tendones of the muscles.* *Fernel. lib. 2. method. medendi. cap. 15.*

If any of these be pearced, there may ensue much griefe, and sometimes great danger.

The cephalica may be opened with least perill of all the vaynes which appeare in the cubite. Now

for the quantity of blood how much may be taken at once, I haue had occasion to declare much al-

ready concerning that poynt, when I intreated in my former booke of Phlebotomy in particular

diseases, I meane not therefore now to stand much vpon it. *Montanus* vpon the fourteenth Canon

of *Anicen*, doth appoynt that in old diseases when by long infirmitie the blood is become grosse, we

must take but a little blood at once, and reiterate the blood-letting often, and still in the meane time

to nourish y^e patient with a good moistening diet. If the blood appeare to be whitish, then (as *Ani-*

cen will haue it) you must let out none at all, least a cachexia, or bad habit or drop sicke do thereupon

ensue. *Fuchsius* doth giue vnto a Chirurgian three generall notes; whereby he shall gesse when is the

fittest time to stay the bleeding, first, by the change of blood: secondly, by the force of flowing, waxing

more faint: and thirdly, by the change of the pulses. The first, that is the change of the blood both

*Montanus me-
dicine vniuer-
salis part. 3.*

*Fuchsius Insti-
tut. li. 2. sect. 5.*

*Hippocr. lib. 2.
victus acut.
aph. 10.*

*Fuchs. Instit.
lib. 2. sect. 5.*

in colour and in consistence, must then especially be attended and wayted for, when the grieve or inflammation for which we let blood, is neere vnto the place where the vayne is opened. For Hippocrates sheweth, that in a pleurisie the blood which is nigh vnto the inflammation, doth farre differ from that which is conteyned in other parts of the body, being by the vehement heate much altered: so that if the blood of the rest of the body be phlegmatick, it will be about the inflammation red; and if the rest be red, it will be about the inflammation adust and burnt. This change of the blood is not alwayes to be taryed for, for it may be that either the strength is not able to indure it, or else that the phlegmone is such a maligne and impacted humour, that it will hardly giue place. In these cases wee must cease before the blood doe change, and the rest is to be withdrawne by a second phlebotomy. The other note to know when it is time to stay the blood, is by the violence of the flowing, now waxen more slow & feeble, for that sheweth that the strength and powers are ready to decay, especially if palenesse of the face, and dazeling of the eyes do begin to draw on. But the most certaine signe of all when we must stay the blood, is the changing of the pulse: for if of thick it become thinne, if of great it become little, if of vehemently strong it become weakel and obscure, if of equall it become vnequall; it presageth that the powers are now ready to be dissolued. The safest way in letting blood is, to be sure to be within compasse, what wanteth may easily be supplied by reiterating, but what is taken too much cannot so easily be restored. Heere an other doubt may arise,

arise, when either for the toughnesse of the humour, or for the weakenes of the party, the blood is let not at once, but at severall times, how neere those times ought one to succcede an other. *Fernelius* sayth, *In diseases that uniuersally afflict the body, the best is, to let blood twise in one day: but in the griefes of particular parts, the reiterating must be longer deferred, to wit, to the second or third day.* *Ficinus* counsaileth such as by studyes are growne melancholick, to be let blood if they feele a plenitude, and he appoynteth it to be done twise in one day in the morning and in the euening, but at either time sparingly: for he sayth, *blood is the temperer of melancholy, the nourisher of the spirits, and the treasure of life.* The like speech hath *Auicenna* in his third canon, where he aduiseeth men that are troubled with a long lingring disease not to be too waitfull of their blood, because a long iourney remayneth to them, and therefore they had neede to gather store of good strength, he addeth this precept, *Keep blood as a pretious treasure.* In that quartaine ague which cometh *ex atra bile*, and in other infirmities coming of the like cause, seeing that the *atrabilis* may come as well of blood or fleame, as of choler or melancholy, the black blood sheweth that it proceedeth of blood adust, and therefore a more larger Phlebotomy is permitted vnto it then vnto any other *atrabilis*, which shall proceede of choler, fleame, or melancholy adust. But otherwise the common opinion of Chirurgians (who thinke that generally the corrupter the blood is, the more plentifully they may let it flow out) is vtterly condemned by *Fernelius*, *You must not when the blood is more impure or raw, or is estranged and departed from*

Fernel. lib. 2. method. mendendi.

Marfil. Ficinus de studio forum sanitate tuenda lib. 1. cap. 22.

Mont. medicin. uniuers. part. 3.

Galen. lib. 1. ad Glauc. cap. 11.

Fernel. libr. 2. method. mendendi cap. 17.

his owne nature, then take so much the more away, after the manner of common bad Phisitions: but by how much more the humours are departed either on this side, or beyond the nature of blood, so much the more sparingly and leasurely you must let that blood flow: and when it shall be found to be very farre from the forme and shape of blood, then must you altogether abstaine from Phlebotomy, for where there is little good blood, there must needs the strength be weake. The corrupt blood doth seeme very fit to be expelled (as Galen sayth.) That which is corrupt is against nature, and that sheweth that it ought to be taken away. The constitution therefore of the bodie doth shew that this ought to be our scope and drift, to euacuate the matter either by Phlebotomie, or by purging, but on the other side the weakenesse of the powers will suffer neither of them. How must we doe then in these great contrarie occasions? Galen maketh answer, *We must in these contrarie occasions and drifts by little and little awayd the bad, and by little and little restore the good, which healing of euill humours is called of Phisitions Epicrasis, or good tempering of humours.* Why doth Galen then in the same lease a litle before in continuall agues called synochi, aduise to let blood *Expi de-mo-cupias*, vntill the heart faint, as likewise he doth in many great inflammations in his comment vpon Hippocrates? He sheweth himselfe the cause in that place where he intreateth of agues, he doth appoynt it to quench the vehement inflammation, and doth meane that it shall be as much as possibly the strength can beare. *Montanum* discoursing vpon the fifth Canon of *Auicenna*,

Gal. method.
medendi lib.9.

Ibid. lib.9.
method. me-
dendi fol.70.
in impressione
Aldi. M.

Hippocrat.
1.aph.23.
Gal. meth.
meden. lib.9.
fol.70.

cenna, sayth, that *Galen* doth commaund sometimes to let blood *vsque ad syncopen*: but I thinke that in that poynt either he was deceiued, or else that they which did commit to writing his speeches (for he wrote little himselfe) did not well remember his words. I reade sometimes in *Galen*,

that vpon vnseasonable and excessiue letting of blood, or any other immoderate euacuation, a syncope or dangerous swooning may ensue, but I can no where finde that he appoynteth to let blood *vsque ad syncopen*, vnto a cutting off of all the powers by swooning. The fainting vnto which in some cases he doth require Phlebotomie to be extended, is called by *Hippocrates* and him not syncope, but sometimes *λειποθυμία*, sometimes *λειποψυχή*, and sometimes *έκλυσις*. Some doe make *λειποθυμία*, and *λειποψυχή*, to be more particular faintings of some affections and powers of the heart and brayne, and *έκλυσις*, to signifie a more generall dissipation of the vitall spirits. But *Galen*s words do playnely ouerthrow that fond distinction. For hauing named the words *περὶ τῆς λειποθυμίας καὶ ἐκλύσεως*, hee addeth immediatly: *ἰσθασιν οἱ ἰατροὶ καὶ ἐνδὲ πρᾶγματος ἄμυν ταῦτα τὰ ὀνόματα φέρειν. αὐτὸ μὲν οὖν τὸ πρᾶγμα ἓν ἐστίν.* Physicians are wont to giue both these names to one thing, as they signifie indeede one and the same matter. And that they both do differ from syncope, hee doth shewe playnely when he teacheth, that grosse humours, when by their toughnesse they doe obstruct, or by their multitude oppresse the passages of transpirations, they cause syncopas or swoonings. But if those grosse humours do neither obstruct nor oppresse, then they bring no syncopas or swoonings,

Montan. medic. vniuersal. part. 3.

Gal. method. medendi lib. 12. & lib. de curatione per vene sectionem.

Vide Massiam pag. 239.

Gal. 1. ad Glauconem cap. 14.

Gal. method. medendi lib. 12. cap. 5.

but

but they bring a certaine faintnes, which the Grecians call Leipoplychia, or Eclipsis. The letting of blood euen vnto fainting, which Galen doth allow sometimes in great inflammations, and certaine hoat feuers (as I haue before declared) must be done very warily, and with great consideration; for many are the harmes and dangers which may ensue thereby, if it be rashly or vnadvisedly practised, as in one place Galen doth plainly and plentifully lay open vnto vs: I saw two men dye in the very hands of the Phisitions, fainting indeed away, but neuer recovering againe. Many although they dye not presently, yet afterward they come to it by the decaying of their powers, and if they had bin euacuated without dissoluing the strength they should not haue perished. And some also their powers being by immoderate euacuation dissolued, do fall into a long lingering disease. Others for all their life time afterward haue the whole temperature of their body ouer-much cooled, being neuer able to recover that harme which he hath gotten by auoyding too much blood. By which coldnes some haue liued afterward ill coloured, and with bad habit of body, and easily annoyed with euery small thing, and others by the same meanes haue bin taken with deadly diseases, dropxies, streightnes of breath by stopping of the lights, weakenes of liuer and stomack, apoplexies, and doings. There are many vnskilfull Surgeons which doe thinke and defend that for the quantity of blood, how much may be spared, they neede no other obseruation, but to let the blood to runne vpon their nayle, and so long as they see it to be grosse and corrupt, so long to let it flow. If they take this course with some diseases, they may vtterly overthrow the strength of their patient. They which haue

Galen. method.
medendi. lib. 9.

haue much corrupt blood, haue little good; and they which haue little good blood, must needs haue little strength; and such as are of weake powers, may soone by a great quantity of bleeding receiue vnrecoerable mischiefes. Galen sheweth, *Gal. de ratione curandi per uene sectionem cap. 6.* that when it hapneth that crude humours are gathered in the body, a great heed must be taken what quantity the strength will indure. For the powers being already dissolued in such constitutions of crude humours, are wont by Phlebotomy to fall into such extremities, as out of which they can neuer againe be recovered. And therefore a little after he sheweth what in this case his owne practise was: *Gal. ibid. cap. 12.* In them which haue a multitude of raw humours I do auoyd a little blond, and do straightway giue a little water and hony well boyled together, with some extenuating thing, as bysop, wild marierom, and sometimes calamint; and then I take away a little more blood, sometimes the same day, and sometimes the day following, in which giuing againe some of the aforesaid medicins, I take away blood againe, and the third day likewise twise. Galen often when he nameth crudities or raw humours, speaketh not of the two first kinds of crudities, to wit, first meates vndigested, and secondly, when any hurtfull matter doth not obey the lawes of nature, (of which two I haue spoken already) but of a third kinde of crudities, when any thick or cold humours do abound in the body, for so doth Galen describe all those humours to be crude or raw which are in the body besides blood, of a thick or cold substance. The more they depart from blood the lesse blood may be spared, and sometime they depart so farre from blood as in dropfies and in some agues comming of the abundance of raw humours,

In the fift
Chapter of
this second
booke.
*Galen lib. 4.
de sanitate
tuenda cap. 4.
& 1. de ali-
ment. facul.
cap. 2.*

*Massaria.**pag. 77.**Galen. in 6.**Aph. 47.**& Comment.**in 2. Aph. 8.**& lib. 4.**de sanitate
tuenda. cap. 4.**Gal. method.**medend. lib. 9.**cap. 11.**Anicen. lib. 1.**fen. 4. cap. 10.**Gal. de ratio-**ne curandi per**renae sectio-**nem. cap. 9.**Gal. ibid.**cap. 13.**Anicen. lib. 4.**fen. 3. tr. 1.**cap. 9. & 10.*

mours, that there is no place at all left for Phlebotomy. If in any place *Galen* doth deny and forbid letting of blood in abundance of corrupt humours, (as he doth sometimes, allotting vnto them rather purgings then phlebotomie) we must accompt it to be done not in respect of the vicious humours, for Phlebotomy is comon both to good humours ouer-much abounding, and to ill humours ouer-much annoying, it is as *Galen* and *Anicen* do make it, a remedy both against the superfluitie of blood, and also against the vices of blood) but *Galen* doth prohibit it only in regard of the weakenes of the strength, for so doth he expound himselfe: These three scopes, to wit, the greatnes of the disease, the strength of the powers, and flourishing age, are sufficient for Phlebotomy: for when such a multitude of raw humours is gathered that it forbiddeth Phlebotomy, yet this my former conclusion is not reprooued, for in such there is no strength fit for it. But (as he sayth afterward) If these two scopes, to wit, the greatnes of the disease, and the strength of the powers be present, there is no such or so great abundance of raw humours, as that it ought to forbid this remedie of Phlebotomy. *Anicen*, although in some cholerick diseases he deny letting of blood, and willeth it to be kept for a treasure, yet in firmer strength in the cure of a kind of *S. Antonies* fier comming of burning citrine choler mixed with melancholy, sayth, *Necessaria est Phlebotomia vt vacuetur sanguis cholericus*, Phlebotomy is necessary that the cholerick blood may be auoyded. *Galen* also alloweth letting of blood not only in continuall agues comming of blood inflamed, but also in that burning feuer called *Causo*, comming of choler putrifying in the vaynes, as

Massaria

Massaria doth proue out of the second booke *de Massaria*.

crisibus, and out of his words vpon the Aphorismes, pag. 82. Gal.com.in

which are these: In most burning agues letting of 1.aph. 23.

bloud euen vnto fainting doth straightway coole the

whole habit of the body and extinguish the feuer, and

also in very many the belly is wont to be made soluble,

and sweates are accustomed to flow, by which decde

some are altogether deliuered from their ague. And he

doth confirme it also by the testimonie of the most

auncient and excellent Phisition *Philothens*, who

commenting vpon the same Aphorisme, vseth

these words: In whome we may let bloud euen vnto

fainting, it is manifest that it is in them who are sick of Philothens in Comment.

burning feuers, and yet not them all, but those in whom in 1. Aph. 23.

the powers are strong. But why doe we let bloud in them

euen vnto fainting, seeing that burning feuers are

kindled by humours putrified? The putrefaction con-

teyneth two things, to wit, the matter putrified, and the

badnes of the quality. Bloud being let euen vnto fain-

ting, doth both diminish the quantity of the matter, and

moreouer extinguish the sharp and inflaming quality,

for by the fainting of the courage the body is cooled.

And finally he doth conuince the same by reason,

seeing that by bloud breaking out at the nostrils,

the sayd burning feuers are oftentimes healed.

Those Phisitions which are of opinion that in this

burning feuer bloud must be let only a little for e-

uentilation from foure to sixe ounces, *longe citra*

lipothymiam, farre lesse then that which doth bring

lipothymie or fainting of courage (whose aduise

is that which I haue mentioned in the second

Chapter of my first booke) I thinke they do coun-

sayle it chiefly in respect of the weakenes of the

powers which oftentimes doth accompany this

Vide Brigthi therapeutica in tractatu de causone.

Vide hic supra

feuer, and then they dissent not much from *Philothens*, who doth not permit lipothymies in all, but only in them whose vertues and powers are firme and strong. Whether the humour be more thinne and cholerick as in cholerick agues, and in phrenzies, or whether it be more cold or thick, as in apoplexies, epilepsies, and lethargies, I haue shewed in my first booke, that Phlebotomy may haue in them a profitable vse. *Galen* (when all other Physicians withstood him) did let a woman blood plentifully, when the blood came out in colour and thicknes like to liquide pitch or tarre. In euery opening of a vaine an especiall consideration must be had what humour it is that doth most indanger the disease. For in splenetick infirmities it is profitable to auoyd well the thick melancholick blood, and to stay it if it be thinne, because the thinne hath a good necessary vse, the better to keepe the thicker from obstructions: but still the chiefeest respect must be had of the strength of the party. If the blood be not a thick black melancholick blood causing some melancholick disease, but otherways corrupted, and greatly degenerating from the nature of blood, Phlebotomy also may take place, but warily and sparingly, and *per vices*, by little and little, diminishing the ill and restoring the good, euer assuring our selues that the lesse store there is of blood, the more feeble is the strength, and in no wise thinking that the triall of the blood appearing ill vpon the thumbe, may be a sufficient warrant to the Surgeon, to continue the more boldly the bleeding of his patient. Cold constitutions may not endure much diminishing of blood, and those lipothymies, which *Galen* and *Hippocrates*

Galen in
6. *Epid.* sect. 3.
cap. 29.

Gal. ad *Glauconem* lib. 1.
cap. 11.

Hipp. 1.
Aph. 23.

do allow sometimes to coole in extreame heates, are short faintings for a time and not vtter deiections and ouerthrowings of the strength and powers. If the blood be loth to come, *Fuchsius* declareth these helps: first, vnloose a little the band: secondly, let him clutch something hard in his hand drawne together: thirdly, let him force himselfe to hem and cough, and last of all bath the incision with warme water. Some do accompt it the readiest way both to make the vayne to appeare well, and to make the blood issue well, is to lap about the lower part of the arme from the place of incision downward a hoat linnen cloth three or foure times folded.

CHAP. 9.

What order must be taken with them that are let blood, as well in the act it selfe to preuent swoonings, as also afterward for their gouernment and diet.

When the patient hath bled what is found to be sufficient, if there be any danger of fainting, then must his body be placed in such manner as is most fit for a perfect ease and rest, so that no one limme or part may be put to any labour. *Montanus* vpon the tenth Canon of *Mont. medicin. Anicenna* doth affirme, that this shall be best performed if the party be layd downe vpon a bed with the face vpward: For all the sinews in the body the instruments of motion haue their beginning from the ioynts of the back-bone, and therefore the sinews of him that lyeth vpon the back do rest, and do suffer no violence. *Fuchsius* is of the same iudgement, Let *Fuchsius Institut. lib. 2. the sect. 5. cap. 120*

Fernelius metho-
dus. medendi
lib. 2. cap. 16.

the patient so lye with his face upward, that all the parts of the body may leane upon the basis or ground-
worke, to wit, the back-bone. Fernelius biddeth, that if the patient begin to faint away, it will be a good course to sprinkle a little cold water into the face, or to put vnto the nose a cloth or peece of bread moystened in wine and vineger, or by tickling the iawes within the mouth to prouoke a vomit. But he sayth, *Præstantissimum est agrum prosternere*, The best thing is to lay the body downe all along, meaning no doubt the same manner which is already described. Though in this case of fainting the party must be layd downe, yet must he not be suffered immediatly to sleepe. The Salernitane schoole commendeth rest, *Omnibus apta quies, est motus sæpe nocivus*, yet doth it on the other side forbid sleeping for sixe houres after blood-letting.

Sanguine subtrahcto sex horis est vigilandum.

Fuchsius instit.
lib. 2. sect. 5.
cap. 12.

The appointing of sixe houres watching is thought by many good Phisitions to be somewhat more then needeth. *Fuchsius* requireth that within an houre or two after blood-letting the party be refreshed with a little foode of good nourishment, and within two houres after (he sayth) there is nothing doth hinder but that he may sleepe, so that they which stand by do looke vnto it that he do not rowle himselfe vpon that arme in which the vaine was opened, & that the bands do not loosen from that place which was pearced. *Fernelius* his opinion is, that in one houre after bleeding the party may take foode, and within two houres after he may safely sleepe.

Fernel. metho-
dus. medendi.
lib. 2. cap. 16.

Fuchsius instit.
lib. 2. sect. 5.
cap. 12.

Further, he that is let blood must haue a great care, that (as *Fuchsius* sayth) he auoyd all strong labours

labours and contentions both of body and of mind for certaine dayes following, and that he vse for a while an exact diet, not beginning rashly or greedily with too much at the first, but increasing by little and little, least if he fall too hastily to a full diet, either the naturall heate being diminished be not able to concoct it, or else the vaynes being made more emptie should draw into themselues those vndigested crudities. *Montanus* interpreting the seuenteenth Canon of *Anicen*, graunteth, that they which are of strong powers, and of a hoate stomach must be fed, because their hoate body doth consume much nourishment euery day, but he sayth, they must be fed with an abiding and substantiall nourishment, not with that meate which is of quick nourishment, because such foode would quickly be conuerted into fumes, and dry away. Giue vnto a countrey labourer the flesh of chickens, and it will straightway be resolved and turned into fumes and choler. *Anicen* in that canon doth appoynt the meate either to be broyled vpon coales, or to be roasted speedily with a quick fire, whereby the inward moysture may not be so much consumed, for in his iudgement, *Nulla caro est deterior quam que paulatim assatur, quia interius & exterius exsiccatur*, There is no flesh worse then that which is roasted ouer-softly, because it hath the moysture dried vp aswel inwardly as outwardly, yet must it be sufficiently either roasted or boyled: for as *Galen* sayth, *It is not possible that either bread too little baked, or flesh vnperfectly boyled, should be well and profitably concocted in the stomach*. His purpose is in that place to shew what diet a man must keepe when for some inflammation he hath bin let blood. First he will haue him for two or three

Montanus in Can. 17. Auicenne medicine universalis part. 3.

Gal. lib. 4. de sanitate tuenda cap. ult.

dayes to abstaine from wine, and to vse in the meane time sometimes ptisane, and sometimes other drinks moderately cooling, or if in the third day he take wine, it must be small and white, vsing for a while a diet that shall nourish good iuices, but in no wise procure ouer-much heate: But chiefly of all we must take heed of nourishing againe too plentifully at the first, for they which vpon such euacuations do returne straightway to their former diet, haue their habit of body filled with raw humours, which the whole waight of the body doth draw into it selfe before they can be well digested in the stomack and in the vaynes, and therefore we must not fill the body hastily after Phlebotomy, nor ouer-charge any part with more then it may be able well to concoct, euen as if the body be wasted and consumed with long abstinence, it is not good presently to fill it againe too plentifully, for (as Galen sayth there) Many when they haue their habite of body extenuated, vlesse they do afterward feede moderately, they gather many superfluities into the whole habit, and get thereby no small diseases. Fuchsius doth sharply condemne the grosse abuse amongst Dutch men, which would God it were not too common amongst vs, together with other the dutch carowfings and excesses: Detestable is the custome of the Germanes, which for the most part do neuer feede more sumptuously, nor drinke more liberally, then immediatly after blood-letting. And not only must the party that is let blood be careful inwardly for his diet, but also outwardly he must apply such fomentations, cataplasmes, and oyntments, as are most fit for the griefe, for the which his vayne was opened. For it is a foolish
and

*Fuchs. Instit.
libr. 2. sect. 5.
cap. 12.*

and fond conceipt of many, who thinke that if in pleurifies, or other inflammations of the lungs, liuer, raines, or other parts they once haue a vayne opened, they neede not then to take any further care. If there be any such inflammation or impostume, there must with Phlebotomy many outward applications be also annexed. As first anoyn-
 tings and plasters made of things, called *ἀναισθητικά*, *anodyna*, which do cease payne and grieve, as oyle of camomill, oyle of dill, meale of barley, meale of beanes, fengreek, ducks grease, capons grease, oyle of sweete almonds, wormewood, mingling with them some cooling things, as oyle of quinces, oyle roset, or *oleum omphacinum*, *unguentum rosaceum*, or *unguentum santalinum*. If these preuaile not, then if the impostumation haue neede of suppurating to be brought vnto matter (as it hath if the paine being not able to be aswaged do increase more and more, for the augmenting of the paine sheweth how long you must vse suppurating things) to help suppuratiō, make your cataplasmes or oyntments of such things as they call *ἐμπύριστα*,
 as oyle of lillyes, fresh butter, hogs grease, goose grease, mallowes, marsh mallowes, brookelime, wheate meale, oyle of camomill, oyle of sweete almonds, mirrh, frankincense, and safron, or in stead of these *diachylon cum gummi Vigonis*. But with these, if the payne be very great, you must alwayes ioine some astringent things, as roses, plantaine, the meate of quinces, and the oyle of mastick. Whē the matter is fully ripened, which is knowne by the decreasing of the payne (for as Hippocrates sayth, 2. Aph. 47. While the matter is in ripening, the paynes and the feuers are greater, then when it is

Methodus generalis curandi inflammationes & apostemata.
 1. per *ἀναισθητικά* dolorem sedantia.

2. per *ἐμπύριστα* noua suppurantia.

3. per *perispermum*
rad. diureti c-
nellentia &
extrahentia.

4. per *perispermum*
saniem ter-
gentia.

already ripened,) then breake it by applying outwardly such things as are *perispermum* and *induratum*, as doves dung, mustard seed, nettle seed, leauen, rootes of briony, hermodactyls, and old oyle, with a little turpentine. And at the time of the breaking, take inwardly some of a decoction made of fumiterre, and the roots of germander, eating some salt thing vpon it, and lying downe vpon the founder side. Also at the same time hold in your mouth a pill made of three parts, *hierapicra*, and one part *colocythis*, to cause a forcible spitting, not swallowing the pill, but holding it awhile in the mouth. When it is broken (which will appeare by manifest signes in the vrine, siege, or spittle) then vse those things which be called *perispermum*, which do mundify & haue a clensing force, as inwardly hydromel or honyed water, with the decoction of barley, hyfop, horehound, chichpease, licorice, and some red sugar-candy dissolued into it: And if there be an ague, then you must mingle also with these things the foure great cold seeds, the seeds of cucumbers, gourds, citruls, and pompions. You may apply also outwardly a plaster made of some of your aforesayd decoction, adding to it the meales of beanes, lupins, and barley. The inflammations of the lungs (which are knowne by a difficultie of breathing without payne, and by a grauitie and distension of the bulk with a cough, but without any feeling of grieffe, vnlesse the membranes of the lungs, being along the brest knit to the brest, be inflamed) are clensed by spittle, and also by vrine, and by siege. The inflammations of the hollow part of the liuer (which are knowne by a great payne somewhat lower, and by an aptnes to vom-

ting

ting and loathing of meate, but ioyned with an immoderate thirst of drinke) are clenſed beſt by the ſiege. The *gibbus hepatis*, or the vpper part of the liuer bending ſomewhat compaſſe downward, ioyning to the midriffe, out of which the hollow vayne doth iſſue, if it haue an impoſtume, (which being very great will appeare to the handling, vnleſſe the body be ouer-fat or fleſhy, or elſe it is knowne by a payne of the right ſide reaching vp higher towards the throate, and cauſing much grieſe in fetching breath) is clenſed beſt by vrine. The inflammations of y^e raines (which are knowne by a payne neerer the back bone, and an aſtoniſhment of the loynes and thighs on the ſame ſide that the kidney is inflamed, together with ſome vomitings, and with vrines, often, but painefull) when they are fit for clenſing, are clenſed alſo the ſame way, to wit, by a moderate uſe of the *diuretica*, or things cauſing vrine, as the rootes of garden parſley, *Petroſelinum Macedonicum*, kneeholme, and Sperage, or *electuarium Iuſtini*, but remembering ſtill that if there be an ague, you ioyne with them the aforeſayd great cooling ſeeds, or the leſſe cooling ſeeds, of lettice, endiue, ſcariole, and purſlayne. If the inflammations be of the ſpleene (which may be knowne and felt by the ſwelling of the left *hypochondrium*, about the ſhort ribs on the left ſide) and do ſuppurate (which happeneth very ſeldome) they may clenſe the ſame way that the liuer doth, but you may do well to adde to the outward receipts the oyle of capers, and the oyle of tamariske. If the inflammation be a pleuriſie (which is knowne by a pricking payne ioyned with the ſhortnes of breathing, and a cough and

conti-

continvall feuer, the pulse being hard and rough like a saw) you may intermix in the clenſing of it ſuch things as doe beſt auoyd the cauſe of it. For Galen ſheweth, *Aliam pleuritidem ex ſanguine, aliam ex bile, aliam ex pituita ortum habere*, That ſome pleuriſies do come by bloud, ſome by choler, and ſome by ſleame. *Fuchſius* and *Trallianus* make ſome to come of melancholy, but *Trincanel* ſheweth, that that muſt needs be either neuer, or very ſeldome, becauſe melancholy is of a thick and earthly ſubſtance, and can hardly paſſe into that thick, ſolide and ſkinnie membrane, which doth vnderbinde the ribs. He further declareth, that it commeth moſt often of choler, according to that aſſertion of Galen, *Plerumque pleuritis fit à bilioſo ſucco, peripneumonia à pituitoſo*, For the moſt part a pleuriſie commeth of a cholerick humour, and the inflammation of the lungs of a phlegmatick. What things do beſt help the auoyding of theſe humours, you ſhall ſee in the end of the Chapter next following. Laſt of all, when the matter and cauſe of impoſtumes is clenſed away, you muſt uſe *nomina uſi interueniſſe*, things that doe conglutinate, consolidate, heale, and cicatrize, as inwardly ſugar roſate, bole armine prepared, and a little of the decoction of cumfrey, but outwardly oyle roſet, oyle of myrtills, and the white of an egge, adding ſome *hypocistiſ*, *acatia*, *coriariſ ſumach*, *maſtick*, *aloë*, *ſarcocolla*, *ſanguis draconis*, and *frankencenſe*. It ſhall be good alſo to drinke ſome of a decoction of vulnerary herbs, as *ſanicle*, *bugle*, *ſelfe-heale*, herb two pence, *virga aurea*, great *valerian*, and *padelion*, ſtrayned, and againe boyled with ſome ſugar.

*Gal. lib. de
constitutione
artis medicae.
Fuchſ. &
Trall. capitibus
de pleuritide.
Trinc. in ex-
planatione
lib. 2. Galeni de
differentijs
febr. lect. 44.
Trinc. de ratio-
ne curandi
part. corp. aff.
lib. 6. cap. 3.
Gal. 4. de pul-
ſibus cap. 8.
12.*

*ſ. per ratiocinatio-
nem interueniſſe
conglutinantia
& cicatricem
aducentia.*

CHAP. IO.

How defects and errors are to be supplied and amended, and how the Phisition, or in his absence the Chirurgian may know by the blood being a little while reserved, what course is further to be taken with the patient.

Galen sheweth, that a certayne young Phisition (for according to the french prouerbe, *Ieunes medecins cymitieres bossus, vieux procureurs proces tortus*, Young Phisitions and old aduocates, the one do make vneuen churchyards, and the other many crooked actions) when he had bound the arme of his patient, and by the binding an artery did appeare high vp, he strake the artery in stead of a wayne, a yellowish blood and thinne and hoate did straightwayes shoote out, and that with a certaine leaping and skipping. Galen when hee vnderstoode thereby that an artery was cut, did first apply a fit plaster to stay the bleeding, and afterward an other to heale the incision, for he defendeth there and auoucheth by his owne experience, that a wounded artery may be healed. *Fuchsius* doth interpret, that *ξανθὸν αἷμα*, which commeth out of arteries, to be *sanguis rubicundus & igneus*, a frye red blood. *Fernelius* thinketh, that the fittest plaster to lay vpon a wounded artery, is, to be made of aloe, myrrh, franckencense, bole armine, and the white of an egge mingled with the haire of a hare. Galen appointeth the plaster to remaine on foure dayes without remoouing. And in the same place doth

Galen. method. medendi. lib. 5.

Fernel. method. medendi lib. 2. cap. 16.

Galt.therap.
meth. lib.5.

Fuchf. Instit.
lib.2 sect.5.
cap.9.

Fernel.lib.2.
method. me-
dicendi. cap.15.

Ibid. cap.17.
Fuchf. instit.
lib.2. sect.5.
cap.11.

doth charge especially, that whatsoeuer is layd to a wounded artery be of a very drying property. So much doth the artery require more drying things then the waynes, as it is by nature of a more dry constitution. If a sinew or a muscle be pricked, there will follow an astonishment and a conuulsion or crampe, or else a great payne, and some swelling, and in this case *Fernelius* sheweth our course must be, not to suffer the wound to grow together vntill it be first deliuered from the inflammation and swelling, and the way not to suffer it to grow together, is, to bath it with warme oyle. After three dayes you may suffer it to heale vp, putting vpon it a little turpentine mingled with Euphorbe. *Fernelius* immediatly after doth shew, as doth likewise *Fuchsius*, how by the blood hauing a little while rested, wee may much perceiue what humour doth most abound in the patient. When the sawcers wherein the blood is conteyned, haue bin set vp some little time in a place where neither wind nor sunne beames may come vnto them, if the blood be thick and viscos, such as is the cause of obstructions, then it will soone congeale together, and being touched, it will stick somewhat to the finger. If it be long in congealing and waxing hard, then is the blood to be accompted very thinne: but if when it is cold it waxe not hard at all, then is it all together either waterish, or putrified. Much whayish and yellowish water swimming vpon or by the blood, doth shew either too much vse of drinking, or the liuer weake, or the raynes feeble and obtruded. The spume or froth that swimmeth vpon it (valesse it come by the violence

lence of the flowing) it sheweth the heate and inflammation of that humour whose colour it caryeth, as the red froth signifieth the heate of blood, the yellow of choler, the white of fleame, and the blackish and blewish of melancholy. The colour of the blood continuing red, is a signe of good and profitable blood. If it be pale, it signifyeth choler; if white, fleame; if greenish, burnt choler; if of a leaden colour, pernicious melancholy; if it be of diuers colours, then it is shewed that diuers humours doe abound. There is sometimes a certayne fatnesse lyke a spiders webbe swimming vpon the blood: If it be in a full bodie, it signifyth a blood prone vnto fatnesse; but if it be in a leane bodie, it cometh of the consuming and wasting thereof. If the blood doe smell ill (as it falleth out but seldome) it is a signe of a very great putrefaction. *Fernelius* sheweth, how in the blood you may behold all the foure humours, *Cum sanguis concreuit serum per summa innatat vrina haud absimile, bilis est tenuis & florida concreti sanguinis pars suprema, melancholia subsidet, sanguis rubentior & petuita pallidior media tenent*: When the blood is congealed, there are fve things offered vnto our view. The *tenuis serum* or whayish part swimmeth vpon the top, much like vnto vrine. The choler is the thinne and flourishing highest part of the congealed blood. The melancholy falleth downe to the bottom. The blood is the redder part, and the fleame is the whiter part of that which doth possesse the middest betwixt the choler and the melancholy. *Galen* sayth, what soeuer is most vnctuous & light in the blood is choler

*Fernelius
methodi me-
dendi lib.2.
cap.3.*

*Gal. lib.2.
de crisibus.
cap.12.*

but,

*Fernel. lib. 2.
method. me-
dendi. cap. 17.*

*Fernelius
ibidem.*

but what is most grosse, and as it were dregges, which by ouer-much heating is dried vp, that is melancholy. *Fernelius* doth aduise vs not only to marke the colour and contents, but also when the blood hath settled awhile, to compare the little basins one with an other. If all be like, it is likely that all the rest in the body is like vnto it, and that only the multitude did offend. For although the blood be neuer so good, yet if it be in ouer-much plenty, it may greeue the body, offend the senses, and bring very many dangers. If all the blood be ill, or if the first be good and the last ill, it sheweth that many humours do yet remayne to be rooted out by good diet, and by fit euacuations, or else if the blood-letting be in a great inflammation, then the last blood being worse then the first, doth often declare, that the very matter of the disease is auoyded, and the euacuation made fully complete. So likewise if the last blood be better then the first, it is a good signe of a perfect euacuation. If the blood be powred afterward into warme water that the substances of it may be seuered one from an other, it will declare much vnto vs. The whayish thinne part will be so confounded with the water, that you can not discern the one from the other. The thinner part of blood will also be mingled with the water; but yet so, that by the colour thereof you may haue a good iudgement of the nature of the humour. The thicker and fibrous part of the blood will shrink to the bottome, which shall be iudged to be pure and agreeable vnto nature, if it be bright, thinne, somewhat whitish, and cleauing well together; but if it be thick, it declareth that the blood in the
body

body is thick. If it be black or infected with any bad colour, it sheweth with what humour y^e bloud is oppressed. If it cleave not together but do easily fall asunder, it is an argument of very great putrefaction. When thus the humour abounding is knowne, and therewithall a consideration had of the state, quality, and nature of the disease, if it be found that there is still a continuance of the payne or griefe, then must we either vse those things which do gently correct the humour appearing to abound, or else (if time and occasion require it) harken to that practise which Hippocrates doth commend in many of his writings (as Galen doth collect out of him) *When humours are increased with a iust proportion amongst themselves, he indenuereth to bring help by Phlebotomy, but when some one humour amongst the rest is superfluous, then doth he giue a fit medicine for the purging of it.* If Choler abounding do yet annoy the body, then either delay it with *syrupus acetosus*, syrupe of limons, and syrupe of citrons, or with some brothes or drinks wherein are boyled lettice, purslaine, endiue, the white flowers of water-lilly, sorell, stubwoort, and dandelion, ioyning with them some sperage and germander; or else purge it, either with some simple, as Rewbarbe a dramme, or cassia an ounce, or manna an ounce and a halfe, taken either in some of the aforesaid broth, or in a decoction of tamarinds and prunes, or else by a compound, as syrupe of roses two ounces, or *syrupus de cithoreo cum Rhababaro* one ounce & a halfe, or *diaprunum compositum*, or *diaprunis laxatiue*, or by *electuarium de succo rosarum*, any of them a little vnder halfe an ounce. If superfluous fleame do

Gal. in comment. 2. Aph. 8.

How to auoyd Choler.

seeme

How to auoyd
fleame.

seeme still to bring danger, then either diminish it without purging, by syrupe of hyssop, syrupe of hore hound, syrupe of mayden haire, *oxymel simplex*, *oxymel squillaticum*, and by ptisanes of barley water, wherein are boyled some elicampane, foelefoote, licorice, and annise seede, or else purge it either with simples, as with infused and strayned agarick about three drams, or with *colocynthis* about twentie graines, or with *elaterium* as much, being well gathered light, white and bitter, or with tithymall leaues dried and prepared, one dramme, or else with some compound, as with the powder of *hierapicra* made into pils, with the iuice of baulme or sage about two drams and a halfe, or by pils *de turbit*, or *pillula stomachica*, of either one of them about one dramme, or *diacarthami* halfe an ounce. Or if the disease haue bin so lingering, and the humours be become so tough and clammy, that scammoniace things may be vsed, you may giue of *Diaphanicum*, or of *electuarium Indum maius*, of either one of them about halfe an ounce. Where I vse the word (about) my meaning is still that in the young, or in the very weake and feeble you must take a little lesse, and in the stronger sort a little more then the quantity here specified, but otherwise vsually and commonly to ayme, as neere as may be, to the waight and dosis here mentioned & prescribed. If melancholy abounding do seeme to aggrauate the impediment, then either auoyd it without purging by syrups of borage and buglosse, syrupe of agrimony, or syrupe of furniterre, or by some broths or drincks wherein are boyled baulme, rosemary, and the flowers thereof, tamariske, dodder, harts-
tong,

How to auoyd
melancholy.

roong, the foure cordiall flowers, to wit, of roses, violets, borage, and buglosse; also capers, and ceterach, called of some fingerferne; or else purge it either by a simple, as by Sene in powder one dramme, or by Sene in decoction halfe an ounce, or by polypody or epithyme, of either of them about halfe an ounce, steeped, boyled, and wrong out, or by black Hellebore about halfe a dramme, or by *lapis Armenius* washed a dramme; or else by some compound, as by *diasena Nicholai*, somewhat more then halfe an ounce, or *confectio Hamer maior* about halfe an ounce, or *syrupus de pomis Rondenletij* about an ounce and a halfe. If mixt humours How to auoyd mixt humours. do afflict the body, then either to mitigate them compound your aforesayd syrups and decoctions, taking one moiety of one, and an other of an other, or otherwise proportionably mingle them, as the humours do more or lesse abound, or else to purge them, do the like by the forenamed purging receipts, or take of *Diacatholicum* somewhat more then halfe an ounce, or *hiera Russi*, the quantity of a chesnut dissolued in broth, or in pills take *pillule aggregatine*, or *pillule de tribus*, of either one of them about a dramme. At what times these and such other like purgings shall be accompted most fit, and what seuerall circumstances are to be obserued therein, as well at the very instant of the ministering thereof, as also in the preparing of the body before, and the guiding of it after. These are poynts which I do handle at large in the *Cathartice*, or second part of the great Phisick remedies mentioned in my Preface: wherein as I haue already gathered most of the chiefest axiomes and

The second booke of
aphorismes out of many famous Phisitions of all
ages, concerning these and such like questions ap-
pertayning to the purging of humours, and in
some sort also disposed them; so do I purpose
also (godwilling) to deliuer them here-
after to the view of the world,
as soone as leasure shall per-
mit to transcribe, and
friends aduise to
publilh.

*Soli uni, trinoque deo sit tota tributa
Laus, cuius captum dextra secundet opus.*

F I N I S.





The Index.

The questions and matters concerning letting of bloud haue no neede of any Index, seeing they are in the Preface to the Reader gathered into a brieft summe, and the Chapters poynted out where euery particular is handled. But for as much as many diseases and griefes are touched here by occasion and obiter in sundry seuerall places, that one place may the better explaine an other, and sometimes also supply, confirme, and second one an other; and moreouer that the Booke may be more readye for the vse of the reader, I haue thought good to adde alphabetically the names of the infirmities and impediments, for which in these two bookes are found many counsailes and remedies.

A.

Agues diaries Pag. 12. 4.

Agues continuall of bloud inflamed p. 6. 70. 108.

Agues burning p. 11. 12. 113.

Agues epiale p. 16.

Agues quotidian p. 65. 17. 4.

Agues tertians exquisite p. 16. 17. 21. 22.

Agues tertians bastard p. 19. 22.

Agues quartaines p. 18. 16. 21. 23. 4. 107.

S. Antonies fire p. 112.

Apoplexies p. 44.

Arteries wounded p. 103. & lib. 2. cap. 9.

K 2

Bladder

The Index.

B.

Bladder inflamed Pag. 100. 101.

Black choler and melancholy how differ p. 20. 19.
107.

Blond abounding how knowne p. 57. 58.

Blond ouergrosse and thick p. 64. 113.

Blond corrupt p. 107. 108. 110. 114. See humours
corrupt and raw.

Burning feuer p. 11. 12. 113.

C.

Cacochymia p. 59. See humours corrupt.

Cachexia p. 52. See habite bad.

Choler abounding how knowne pag. 58. & lib. 2.
cap. 10.

Choler auoyded how auoyded and purged booke 2.
Chapt. 10.

Choler auoyded by blond-letting p. 22. 27. 112. 113.

Children what to take in steed of letting blond p. 73. 74.
75. 76. 78.

Costuenesse how holpen by clysters p. 69. 70. 71.

Colick p. 45.

Concoction wanting how knowne booke 2. chap. 5.

Conuulsions p. 43.

Continuall hoate feuer p. 6. 70. 108.

Crudities p. 111. See raw humours.

Crudities how knowne booke 2. chap. 5.

D.

Diary feuers Pag. 13. 4.

Dropsy p. 45. 52.

Earts

The Index.

E.

Eares payned p.101.

Epiala feuer p.16.

Epilepsies p.44.

Eyes payned p.101.

F.

Falling sicknesse p.44.

Feuers of sundry kinds, See Agues.

Fleame abounding how knowne pag. 58. and booke 2.
chapt.10.

Fleame abounding how annoyded and purged p.67.69.
and booke 2. chapt.10.

Fulnesse or full habit of body p.257.98.

Fluxes of body p.79.80.

G.

Gall of ill constitution p.63.

Gout p.47.48.49.

H.

Habite bad p.52.

Heart payned p.100.101.

Heart fainting, See swoonings.

Head-ach p.101.

Head inflamed Pag.42.110.

Hips payned p.100.

Humours corrupt and raw whether admit Phlebo-
tomy p.51.52.60.65.66.67.71.107.108.110.

III.

I.

Iaundise p.52.

Inflammations and impostumes how cured booke 2.
chapt.9.

Intempe-

The Index.

Intemperancy p.60. and booke 2. chapt.9.

Itches p.51.

K.

Kidneys inflamed causing stone p.39.47. and booke 2. chapt.9.

Kidneys inflamed p.100.101.

L.

Legs payned p.38.

Liuer hoate and stomack cold p.50.

Liuer inflamed p.100.101.

Liuer inflamed in cauo booke 2. chapt.9.

Liuer inflamed in gibbo booke 2. chapt.9.

Liuer full of bloud and choler causing pleurisie p.42.

100.

Loosenesse of body p.79.80.

Lungs inflamed p.35.100.101. and booke 2. chapt.9.

M.

Melancholy and black choler how differ p.20.19.

Melancholy abounding how knowne p.58. and booke 2. chap.10.

Melancholy abounding how purged and auoided p.107. and booke 2. chap.10.

Melancholy windes p.44.

Mixt humours how purged booke 2. chapt.10.

N.

Nostrils bleeding sometimes ill p.75. sometimes good. p.39.40.114.

O.

Old and lingering diseases p.105.107.

Old age whether to be let bloud or no p.72.77.

Palsies

The Index.

P.

Palsies pag. 43.

Phrenzies p. 27.

Plague or pestilence p. 23. 25. 26.

Pleurisie upon what severall causes it commeth p. 42.
and booke 2. chap. 9.

Pleurisie when and how let blond in it. p. 31. 35. 37. 72.
98. 99. 106.

Pleurisie when not let blond in it p. 38. 39.

Pleurisie how outwardly holpen booke 2. chap. 9.

Pulses distempered what signifie p. 9. 10. 11. 106. 7.

Poxe. 23.

Q.

Quartaine fevers. p. 16. 18. 21. 23. 4. 107.

Quinsies p. 29. 98.

Quotidian fevers p. 65. 17. 4.

R.

Raynes inflamed p. 100. 101.

Raynes inflamed causing stone p. 39. 47.

Raw humours whether admit letting-blond p. 51. 52.
60. 65. 66. 67. 71. 107. 108. 110. 111.

S.

Scabs p. 51.

Scurvy p. 53.

Spleane obstructed p. 44. 53. 100. 101.

Spleane inflamed p. 39. 40. booke 2. chap. 9.

Spleneticke blond p. 23. 113. 114.

Spitting blond p. 34. 38.

Spirits inflamed p. 7. 9.

Stone in the raynes p. 39. 101. 100.

Squinancies p. 29. 98.

Stomack

The Index.

Stomack weake and loose Pag. 62.

Stomack impure p. 64. 69.

Strength fayling p. 109.

Sweating sicknesse p. 26.

Swounings p. 62. 63. 79. 109. 110.

Suffocation p. 2. 35.

T.

Tertian feuer exquisite p. 16. 17. 21. 22.

Tertian feuer bastard p. 19. 22.

V.

*Vomits how to be made when the stomack is impure or
molested with corrupt humours* p. 64. 69.

Vrines betokening crudities booke 2. chapt. 5.

Vrines deceiuing p. 45.

W.

*Women hauing their flowers or with child whether fit
for letting blood* p. 77. 79.

Women with flowers suppressed p. 99.

Wombe inflamed. p. 37. 100.

Y

Yellow and thinne blood p. 21. 114.

Yellow iauundise p. 52.

Faults escaped.

Page 2. line 22. for t. *Aph.* 1. reade 1. *Aph.* 3.

Page 11. line 22. for rough, reade cough.

Page 71. line 12. for to an ounce and a halfe according,
reade, to an ounce according &c.

Page 110. line 2. for *eclipsis*, reade *eclipsis*.

